U.S. $2.00 CND. $3.00 VOL II, NO. 2

ST World

THE LEADING CURRENT NEWS SOURCE FOR THE ATARI ST

POINTOF SALE SYSTEM
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DESKTOP PUBLISHING
SEE PAGE 7

PREVIEWS
SEE PAGE 14

GEM SHOW 87'
SEE PAGE 25

COLOR VIDEO SCANNER FOR ATARI

Digital Vision introduces the first full color video scanning device for the Atari ST, **COMPUTEREYES** and software ($249.95). Computereyes is a cartridge interface that connects any standard NTSC composite image from a video camera, VCR, laserdisk, or even another computer that outputs a composite video. The unit is completely compatible with both monochrome and color monitors and the 520ST or 1040 ST. Due to the amount of memory required for the Computereyes software and image buffers you will not be able to use any desk accessories on a 520ST. Images captured may be saved to disk in three file formats, DEGAS, DEGAS COMPRESSED and NEOCHROME.

The interface is a 5" X 5" X 1.5" cartridge that plugs into the cartridge port of the ST with a small power supply module that plugs into any standard 110 outlet. Your camera or other video input device is connected to Computereyes with a standard RCA jack.

Computereyes was tested with a color camera and a color monitor first. The set up took less then 20 minutes and our first image was captured less than fifteen minutes later. I was amazed at how easy it was to manipulate colors, contrast and obtain a first video scanned picture. Digital Vision has provided easy GEM tools for every facet of the process the only time you need to use the keyboard is to enter the name for the file you want saved.

Once you have captured the images you can make the various adjustment (resolution, contrast, brightness) to suit your tastes. In LoRes (320 X 200 bits per pixel) you have 16 colors from a palette of 512 selected with a sophisticated voting technique to choose from. Two-level high contrast black and white, four-level gray scale, eight level gray scale and a sixteen-level gray scale in shades of various colors to work with. In MedRes (640 X 200 two bits per pixel) you have 4 colors from a palette of 512 selected with voting to choose from. Two level high

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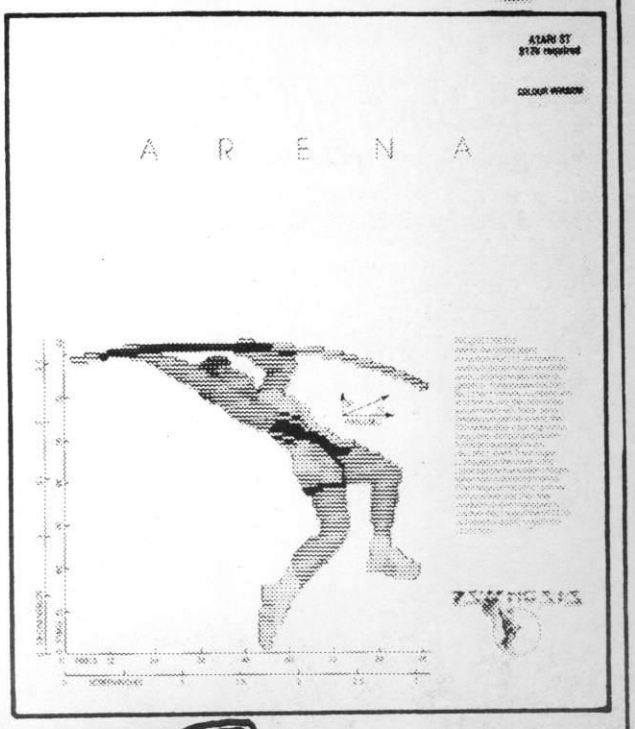

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A fully interactive system! Designed especially for the Atari ST. Provides a full-fledged menu driven operating shell which can carry out all necessary file and system functions. Powerful, yet written with the first time user in mind. Includes easy to use shell and editor. Use with 520ST or 1040ST, Monochrome or Color. **$149.95**

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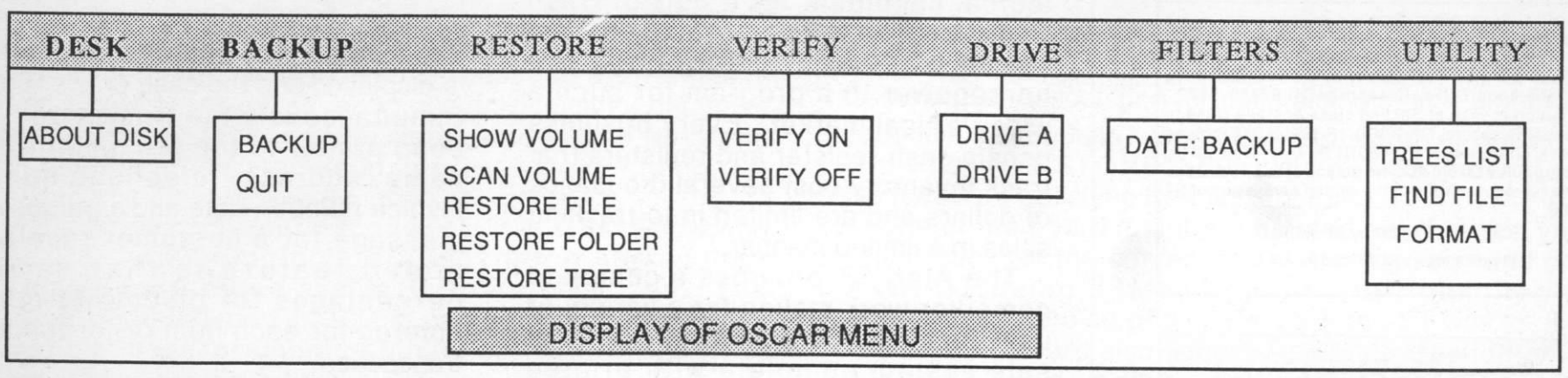
HARD DISK BACK UP UTILITY

REVIEWED by TOM PEARCE



How would you like to be able to back up your hard disk three times faster? Be able to back up selected parts of your hard disk partition or selected files or folders. Softlab's **OSCAR** ($39.95) will copy files from your hard disk three times faster than from the desk top, for even faster copying the verify mode may be turned off. Oscar will archive a single file, folder or the whole disk and allow you to restore a single file or folder. Archived files or folders do not have to be returned back to their original position, you may restore anywhere to any drive you wish.

The operation of Oscar is completely mouse driven with easy to use drop down menus to select functions from. For easy reference purposes Oscar names each set of back up disks in volume names. When you drop the Back Up menu and click on back up, a dialog box will appear showing the volume name defaulted to *UnNamed 1*, you may clear the field by depressing the esc key and then enter your new volume name up to 15 characters. After selecting the Volume name, depressing return will commence the back up procedure. If you want to just back up a part of a disk or just a file, you can click on the ***Root Path*** box. To back up a folder, you would enter the name of the folder or to back up a folder in a folder you would enter the path to use, (Example: Root Path: DRIVE:\Folder\SubFolder\SubFolder). Once you have set your parameters and clicked on OK, Oscar will go to your hard disk and then display the number of bytes and the number of **DOUBLE** sided disks (SF354 owners double amount of disks) it will take to perform the back up.

Oscar will instruct you through the back up procedure, disks must be **FORMATTED**, Oscar will not format disks, but will erase all data from a formatted disk. After the back up procedure is completed Oscar will instruct to you re-enter the first disk (#1).

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ST WORLD

VOLUME II, NO. 2

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PRODUCTS USED TO PREPARE THIS ISSUE

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ABACUS SOFTWARE
TEXTPRO and PAINTPRO
SOFTLOGIK
PUBLISHING PARTNER
QMS, INC.
800PS LASER PRINTER

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POINT OF SALE SYSTEM

NOW AVAILABLE ON

ATARI ST

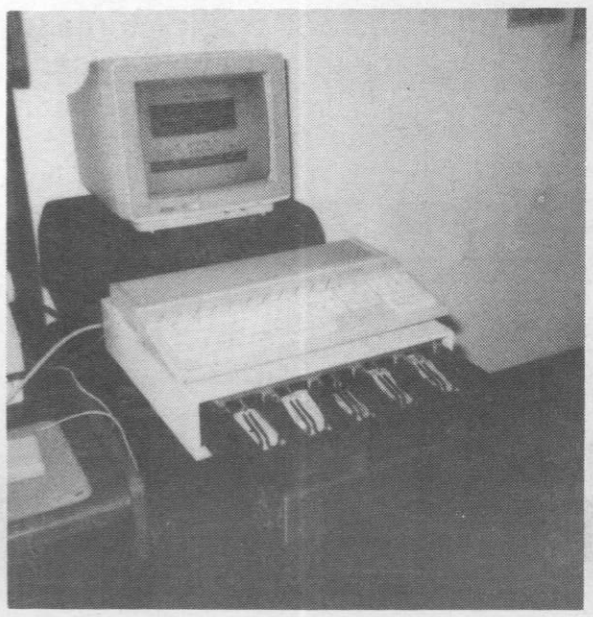
by RICH TSUKIJI

Cash Register is a new application for the Atari ST, introducing the ST in to the retail market trade. Cash Register is a ***"Point of Sale"*** check out program for any small to medium retail business with inventory of tracking requirements of up to 8,000 items (SF354/single sided drive 3,000 items; SF314/double sided drives 8,000 items). A hard disk version is will be available shortly for businesses requiring inventories of up to 160,000 items.

Cash Register is a TOS program and is very direct and easy to use. The system provides prompts and instructions through out every phase of operation. The program was originally written in 1984 for a line of UNIX (tm Bell Labs) work a likes which are sold nationwide. The programmer determined that the Atari ST was the logical candidate for a port of Cash Register. The ST's RAM size and fast speed work well for applying the horsepower to a program for such a wide vertical market. Every business uses a cash register and registers that track inventory cost several thousands of dollars and are limited in to tracking sales in a limited manner.

The Atari ST provides a complete computer work station for a variety of uses in addition to providing a point of sale system complete with printed receipt and a lockable cash drawer. The cash register will function with or without a drawer or a printer if desired.

The program accepts sales drawn from stock numbers or by the product description, the operator enters the product number or product description (or part of description, i.e. *comp* for *computer*) and the system will display the item, operator enters quanity purchased, continues procedure until all purchases are entered, then depresses a single key for subtotal, enters amount tendered, for other than cash payment entering letter "c" provides three alternative choices for completing the transaction, (credit card, check and



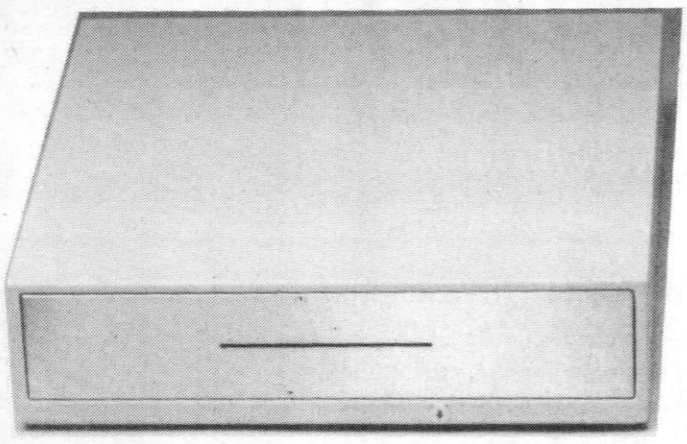
ATARI ST POINT OF SALE SYSTEM
MOUNTED ON TOP OF CASH DRAWER

house account), the amount of change is displayed and the cash drawer opens. Simultaneously the tranactions have been printer to the printer with store name, address, telephone number, invoice number, date and a personalized message for a customer receipt. A added feature is that variable percentages for discounts may be entered for each item or for the entire transaction.

The program takes into consideration, taxes required to be collected in some states and has three fields available to enter tax(s) manually or automatically. For transactions that an inventory is not maintained, a function is provided for these transactions also. Transactions may be recorded as cash, credit card (the programmer shows his sense of humour here, the report lists credit cards as *"Plastic Money"*) or a a house charge account.

CONTINUED ON PAGE 5

POINT OF SALE SYSTEM CONTINUED FROM PAGE 4



ELECTRONIC CASH DRAWER
AVAILABLE IN BLACK OR BEIGE

Retailers requiring a cash register can now get a state of the art computer system incorporating a full fledged inventory system that is easy to use and priced far below competitive point of sale systems. During slow periods the ST can be used for wordprocessing, database management, desk top publishing, etc. without losing any data. The system is completely non-self destructive in that you may freely exit or re-enter the program without any ill effects or loss of data. The system has been BETA tested in retail stores with no problems for the past year. Watch for video rental stores and a fast food chain coming on line soon. I wouldn't be surprised to see this system in every neighborhood store by the end of the year.

At the end of each sales day you can save all your transactions to disk and file away as a daily report. No more rolls of paper stuffed in old shoe boxes. Your hard copy printed report will tell you of stock shortages by item number and description (if any) totals for recorded sales, #1 tax collected, #2 tax collected, #3 tax collected, Other tax collected, Total tax collected, cash taken in, credit cards sales, amount of sales by check, misc. credit sales and sales receipt, complete list of refunds if any and the gross total of refunds.

Setting up **Cash Register** is one of the easiest business application programs I have ever worked with. Your first step is to define your company name, address, city, state, zip code and telephone number for printing out to your sales receipt and your custom message to be printed on the bottom of every receipt. All the information can be edited later if necessary with a simple text editor so you need to change anything. Any new inventory items can be added at anytime without disturbing the current sales or receipts in memory.

I spent about 15 minutes to set the system up and run a test with 23 separate transactions ranging from cash sales, credit card sales, in house credit sales and sales paid by check. I only used 20 items in the inventory record so the time required to enter all products for the initial set up would depend on how many products you needed to enter into the inventory record. A cash register system set up with a single drive will work fine, but I think a two drive system would be preferable and setting up a single data disk for each days record of all transactions would be very advantageous (the disk would replace the normal register tape retailers are required to maintain by IRS and most state taxing agencies). This would make it very simple if you ever needed to go back and search for any particular transactions or document your sales. I used A.N.D.'s fast-Key program to go back through some of the files generated by the system to review the data. It is much easier and faster than using the desk top method and print outs are much cleaner and easier to generate from within the *fast-Key* shell program.

A hard disk version of **CASH REGISTER** will also be available for businesses that require maintaining an inventory exceeding 8,000 items. For those individuals that do not like keyboards, A.N.D. will be introducing a touch screen version that requires you to just touch the screen to enter transactions. ***Cash Register Elite*** (Release - May 87') will provide additional accounting enhancements for detailed accounting.

If you have a small business that has a requirement of maintaining an inventory of less than 8,000 items the Atari ST Cash Register System is just right for you. The basic system is available for less than $1,000 and shipping now. A.N.D. can also provide customized programming for any of your specialized needs, the system is so versatile that few applications will require any customizing.

ATARI ST POINT OF SALE SYTEM
WITH CASH DRAWER AND PRINTER

SUMMARY OF CASH REGISTER SYSTEM

Personalized sales receipts
Totally variable discounts
Refunds, type of tender, and shipping charges handled
Manual entry allowed.
Auto inventory search on ANY field or part of a field.
3 pre-defined tax amounts, separate tax tall on each.
Manual tax entry allowed.
Use with or with out printer.
Use with or with out cash drawer.
Disk file of all sale slips.
Flagging for inventory re-order.
Detailed record of tax and sale type on disk.
Numbered sales receipts.
Daily reconciliation program.
1. Update inventory.
2. Generate order.
3. Sales receipt justification.
4. Tax tallies.
5. Refund list/tally.

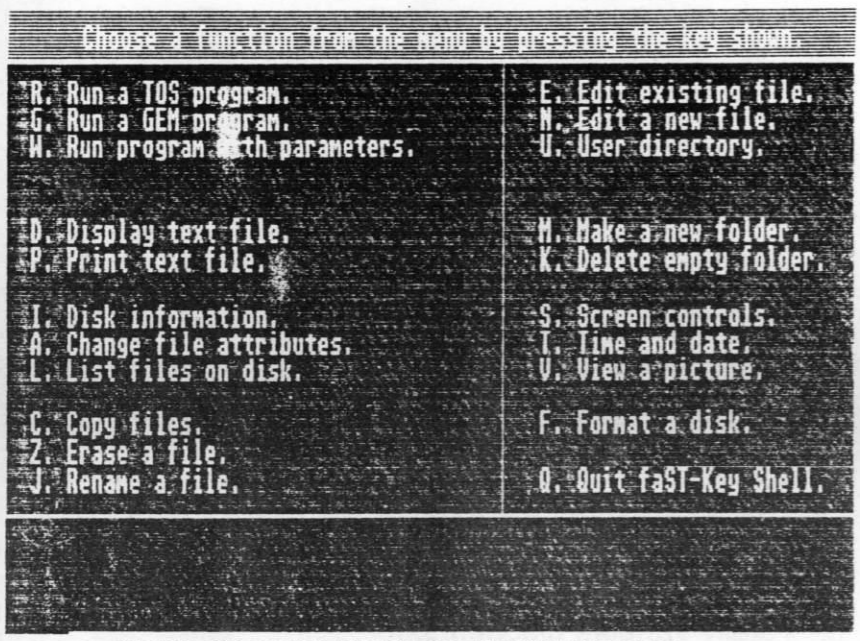
Inventory entry program.
All ASCII files allow use of Text processor.

A.N.D. CORPORATION
114 CHERRY STREET,
WESTWEGO, LA 70094
(504) 436-4536

faST-Key SHELL

REVIEWED by *Celeste Martinez*

fast-Key introduced by A.N.D. Corp. is a program that will replace the mouse and drop down menus of your ST for faster disk operations. Those of you that have a hard disk will wonder how you got along without it. *fast-Key* is a "shell" type program that performs all disk functions usually with a single key stroke. fastKey is provided in two versions, one for color monitors and one for monochrome monitor users. The first time you load fast-Key it will create a file named Load fast-Key from the desk top and the following menu will appear: (Do not load *fastKey* from a AUTO folder, it MUST be loaded from the desktop!) Once fastKey is loaded you can forget about your mouse until you load one of your programs, when you exit the program you will be brought back to the fastKey menu, not the standard desktop.


Choose a function from the menu by pressing the key shown.
R. Run a TOS program.
G. Run a GEM program.
W. Run program with parameters.
D. Display text file.
P. Print text file.
I. Disk information.
A. Change file attributes.
L. List files on disk.
C. Copy files.
Z. Erase a file.
J. Rename a file.
E. Edit existing file.
N. Edit a new file.
U. User directory.
M. Make a new folder.
K. Delete empty folder.
S. Screen controls.
T. Time and date.
V. View a picture.
F. Format a disk.
Q. Quit faST-Key Shell.

VIEW OF DISK INFORMATION SCREEN

To perform any of the menu functions simply depress the key corresponding to the function you wish performed. Run TOS, GEM and programs with parameters by pressing R for TOS, G for GEM or W for programs with parameters. With *fast-Key* you can eliminate your accessories for setting time, date, screen color, keyboard control, printer and modem set-up. Note that the date and time is always displayed on the screen when the *fastKey* menu is displayed.

To give you an idea of the ease of fastKey menu functions, we'll select "G" from the menu. This will provide you with directory listing the disk currently in the drive, to view listings in other drive simply depress the tab key and the letter for the drive you wish to view. The directory is presented with all the files and programs listed with a corresponding alpha character. To load a GEM program depress the corresponding alpha key to the GEM program you want loaded and fastKey will proceed with the load. Let's compare the *fastKey* GEM loading procedure to the standard mouse driven desktop method.

From the desktop, double click on drive icon to display directory, search for program, double click on program name to load. From fastKey, depress "G" key to display directory, depress corresponding alpha key for program to load. This feature is impressive when using a hard disk or a disk that contains a lot of files.

Display text file and print text file simplifies viewing and printing text files. Depressing "D" for display text displays the disk directory and depressing the corresponding alpha key to the text text file you wish to view will load the file and display it to the screen. Depressing the "P" key performs the same functions but sends the selected text file to your printer.

Depressing the "I" key for disk information displays the following:

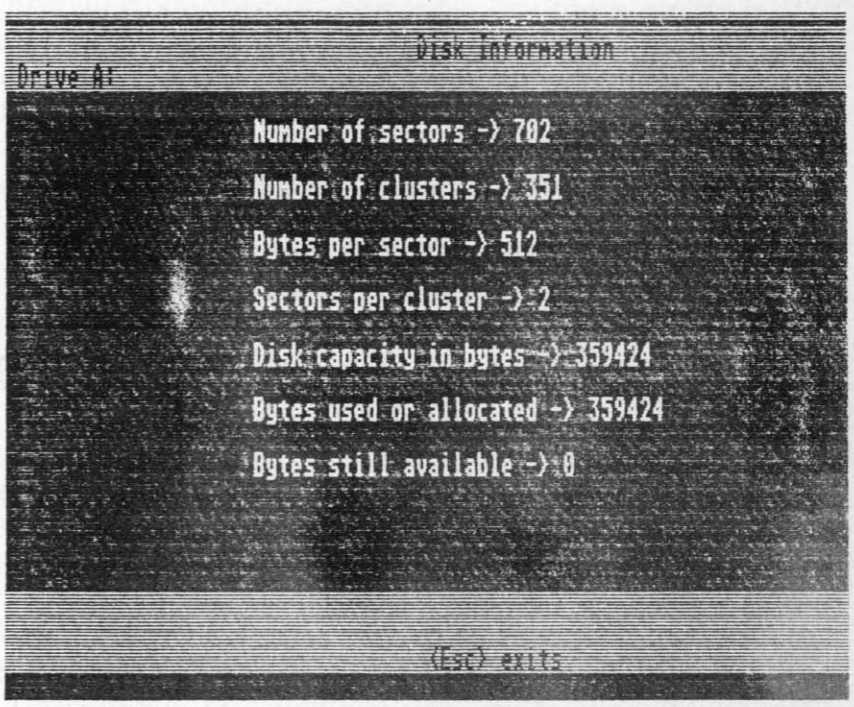
You will see that this command provides much more information than you would obtain by merely adding up all the file sizes shown in the directory. This feature is very handy for checking disks to see if they have enough space left for any more files or for a very long data file.

The "A" command to change file attributes may serve to be a very useful function to protect or hide files. This function will allow you to hide selected files from a GEM directory listing (not from *fastKey*), write protect a file, create a system file and change the status.

The "L" command will list the directory of a file, generally you will not use this function as you can not perform any function other than to look at directories from this mode.

The "C" command to copy files will become one of your most used commands. Unlike copying files from the desktop, the fastKey copy command copies files 32K at time eliminating the need to swap disks in most cases on a single drive if any (very fast). One nice feature copying files using *fastKey*, each file being copied is displayed by file name, from which drive it is being copied from and to which drive it is being copies to. When the file is transferred you will be told when transfer is completed.

Deleting files using the "Z" command is very fast and efficient. It is fast and you must be very careful with this command.


Disk Information
Drive A:
Number of sectors -> 702
Number of clusters -> 351
Bytes per sector -> 512
Sectors per cluster -> 2
Disk capacity in bytes -> 359424
Bytes used or allocated -> 359424
Bytes still available -> 0
(Esc) exits

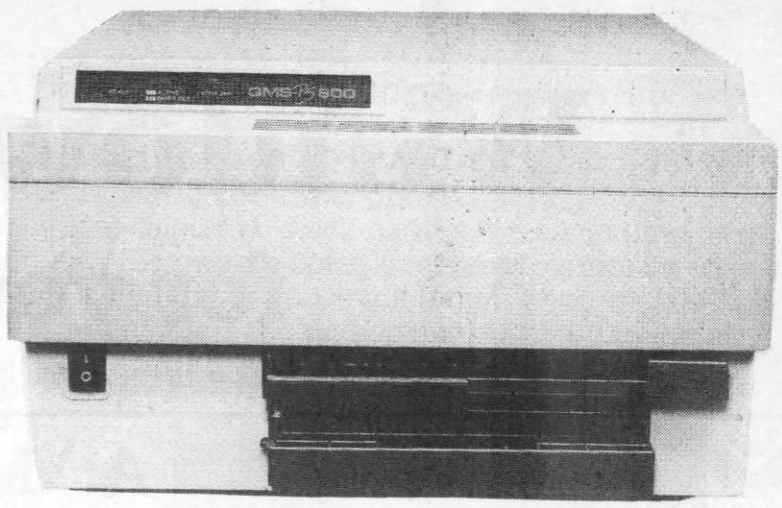
VIEW OF MENU FASTKEY MENU SCREEN

The "J" command for renaming files is a quick and easy way to rename files, file names may be entered in either upper or lower case, the entry will automatically be converted to upper case.

CONTINUED ON PAGE 23

DESKTOP PUBLISHING WITH THE ATARI ST
PUBLISHING PARTNER
QMS 800PS LASER

by *Rich Tsukiji*



Desktop publishing has become one of the major markets for personal computers and laser printers. SoftLogik Corporation with its introduction of **PUBLISHING PARTNER** has opened the door for the Atari ST into this major marketplace. Publishing Partner supports the most widely accepted page description language "*PostScript*" by Adobe Systems, Inc., which is currently supported by numerous laser printers.

It is important to note that there does not exist a defacto standard in the industry for a page description language. The acceptance of a standard PDL would ensure that the growing number of desktop publishing programs are all compatible with peripheral output devices, allowing the end user and or reseller to match its needs with a complete hardware/software solution.

A page description language is a controller device that interprets the commands between the CPU and printer. With the appropriate software, (for Atari ST users/Publishing Partner), PDL enables the text, images and graphics designed on the screen to be relayed to the raster image processor, which drives the laser printer.

At present, Adobe's *PostScript* continues to have the widest acceptance. Xerox has announced Interpress PDL, and Hewlett-Packard is supporting Imagen Corp's Document Description Language. Hewlett-Packard currently is using HP Printer Command Language on its LaserJet printer. PDL's have become a industry within an industry and the likelihood of a single standard is unlikely. *PostScript* provides excellent typography, halftone photography or complex graphic manipulations, making it ideal for graphic arts and professional applications. Interpress and Document Description Language are probably more preferable in networked environments for applications that deal with complex document processing such as duplex printing uncommon page sequencing and demand publishing. The use of *PostScript* in applications that require high speed output is unacceptable when text and images are merged. A laser printer could take as long as fifteen minutes to produce the first page of a complex merged text and graphics lay-out.

The application of desktop publishing with the Atari ST has been made possible with the introduction of SoftLogik's Publishing Partner, additional software publishers will be introducing similar programs in the near future that are compatible with one of the page description languages on the market. Another problem the Atari ST user faces is support from third party laser printer manufacturers. There are relatively few Atari dealers that market laser printers, the retailers that market laser printers generally are not familiar with the Atari ST. The Atari user must generally rely on the "trail and error" method just to get laser printer to print.

QMS, Inc. to date is the **only** laser printer manufacturer that has indicated any interest in providing the Atari ST user with support. Their **QMS 800PS** interfaces easily with the **Atari ST** and is 100% compatible with SoftLogik's **Publishing Partner** program. There are several Atari ST retailers that are now carrying the QMS line of laser printers. Many ST users who are interested in a high speed printer output and a professional quality document have found that the QMS KISS and BIG KISS laser printers are suitable for their needs. The QMS KISS laser printer was the first laser printer on the market to break the $2,000 price barrier last year.

The QMS PS 800 retails for $4,995. and supports Adobe's *PostScript* page description language. Interfacing to the Atari ST requires only a null modem cable (pin 2 to 3, 3 to 2, 7 to 7) plugged into the QMS PS 800 to the modem port of the ST and setting the four position switch (similar to setting dip switches on a dot matrix printer) to 0 and turning on the printer. The initial set up on Publishing Partner requires you to use one of your desktop "RS232 Config." accessories to change the RS232 configuration to be compatible with the QMS 800PS printer. The settings required are: 9600 Baud, no parity, full duplex, 8 bits/char, Xon/Xoff - on and Rts/Cts - off. Save these settings to your Publishing Partner disk and in the future will never have to be set again.

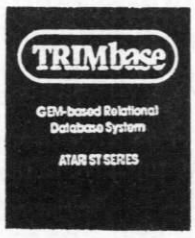
The Atari ST configured with a QMS 800PS laser printer and used with SoftLogik's Publishing Partner is the ideal desktop publishing system at a price under $6,000. One example of the versatility of this configuration is the reduction capabilities. Your finished document can be reproduced in a wide range of sizes similar to reducing or enlarging a document on a photocopier. Publishing Partner's print document option permits you to print documents at 100% or you can enter a percentage which you want your document enlarged or reduced.

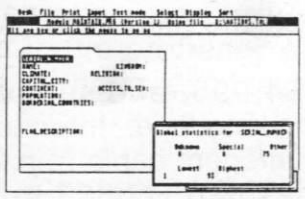
In coming issues of ST WORLD we will continue to bring you information dealing with the **ATARI ST/QMS 800PS/PUBLISHING PARTNER** configured desktop publishing system. We will also advise you of any other peripheral devices which become available for desktop publishing.

PUBLISHING PARTNER	QMS 800PS LASER
SOFTLOGIK 4129 OLD BAUMGARTNER ST. LOUIS, MO 63129 (314) 894-8608	QMS, INC. ONE MAGNUM PASS MOBILE, AL 36608 (205) 633-4300

Window Shopping
for your Atari ST

A:\MICHTRON





This Data Management system is simple to use; no programming knowledge is required, yet it has the power to handle large amounts of complex data. As your application grows, *TRIMbase* continues to supply efficient, quality support.

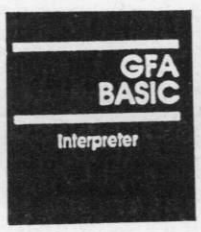
Customizing - *TRIMbase* is able to generate custom reports, both as tables and as free text.

Versatility - *TRIMbase* has help options, point-and-click controls, pull-down menus, and can exchange data with other software.

Relational operations - Projection makes files smaller and easier to handle; Selection partitions large files; Merge forms one file from two with identical record cards; Subtraction removes a file from another; Join constructs a new file from the data of two or more files with different cards and layout.

This complete data management system lets you easily manage an enormous amount of information in your home or business.

Color/Monochrome . . . $99.95



Which high level language for the Atari ST is as easy to program as BASIC yet has full access to system features and execution speed that rivals assembly language? The Answer? *GFA BASIC*.

GFA BASIC resembles Modula-2 or Pascal code with ability to accept parameters from the main program as well as using local variables. Also, the various MENU commands lets you handle GEM drop-down menus!

The most impressive functions of *GFA BASIC* are the EXEC and C: commands. EXEC lets you load and execute a non-BASIC ST application from within a BASIC program, while the C: command calls routines written and compiled in C.

GFA BASIC has an abundance of graphic commands, along with Unix-style DOS functions, and additions to the keywords offered by ST BASIC. Other dynamic features include Run-Time module, built-in editor, uses only 55K of memory, structured programming.

GFA BASIC stretches the definition of the BASIC computer language.

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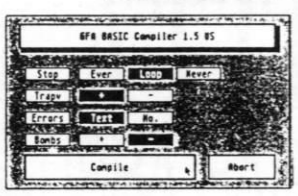

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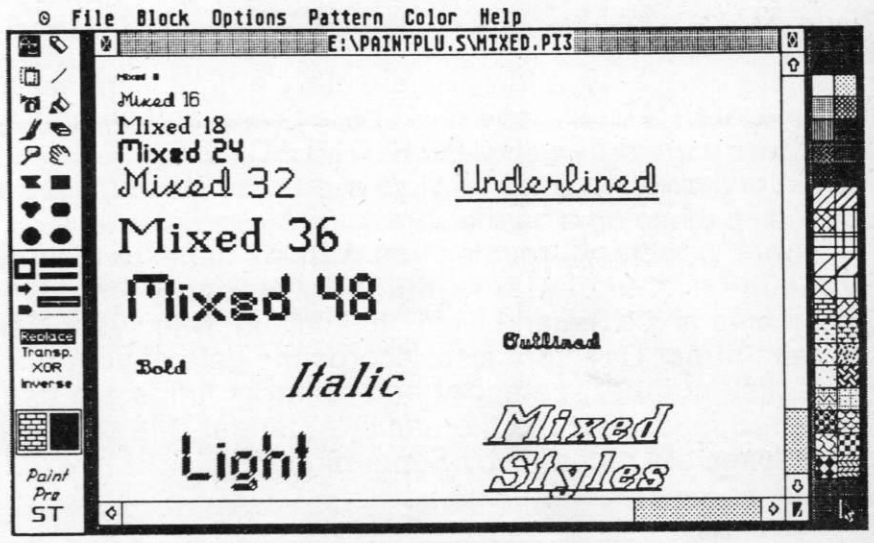
PAINTPRO LIBRARY 1

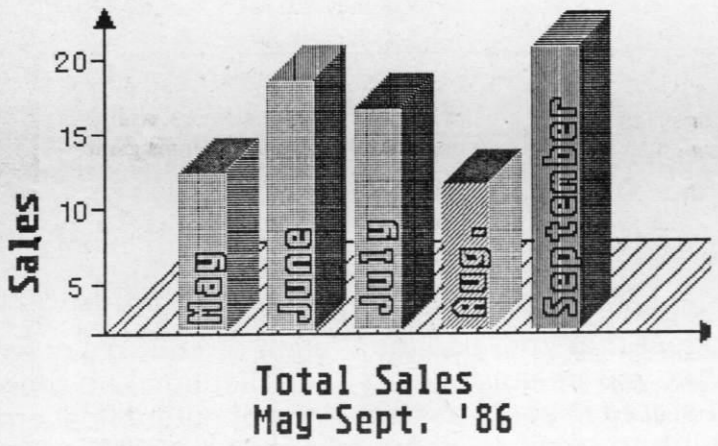
REVIEWED by Mark Deal

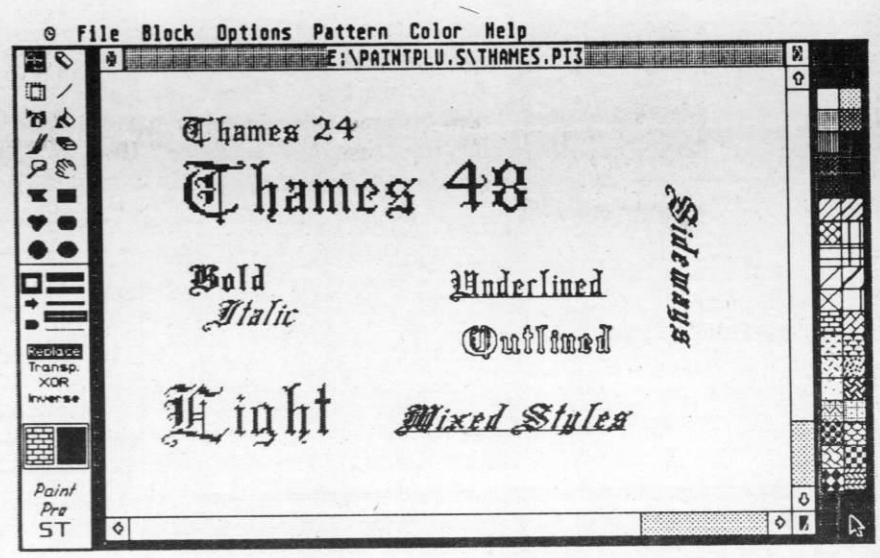
PaintPro Library 1 includes a GDOS V1.1 operating system program which will allow any 520ST or 1040ST to access GDOS character fonts. The new fonts available with the PaintPro Library are: Swiss, Computer, Chantal, Mixed and Thames. The clip art set includes a set of electronic symbols, a set of drafting symbols as well as an assortment of pictures, borders and ornamental art, in all there are over 100 pieces of clip art to work with.

PaintPro Library is also compatible with SoftLogik's Publishing Partner and the graphics can be imported into the program and resized as required. Programs such as PaintPro and the library of clip art provide an additional resource to those involved in desktop publishing as well as graphic artists.

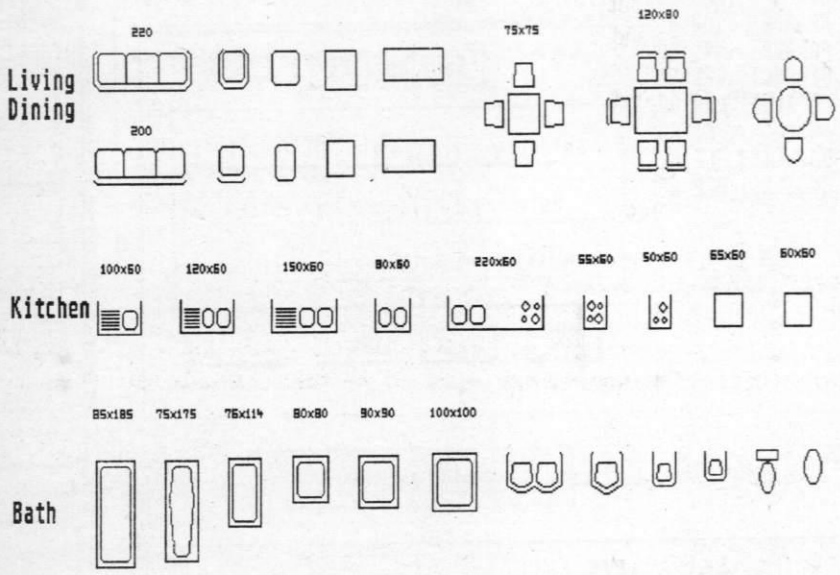
Contained on one of the PaintPro Library disks is a demo picture showing possible graphing applications. Below the demo picture was imported into Publishing Partner and reduced by 50%.

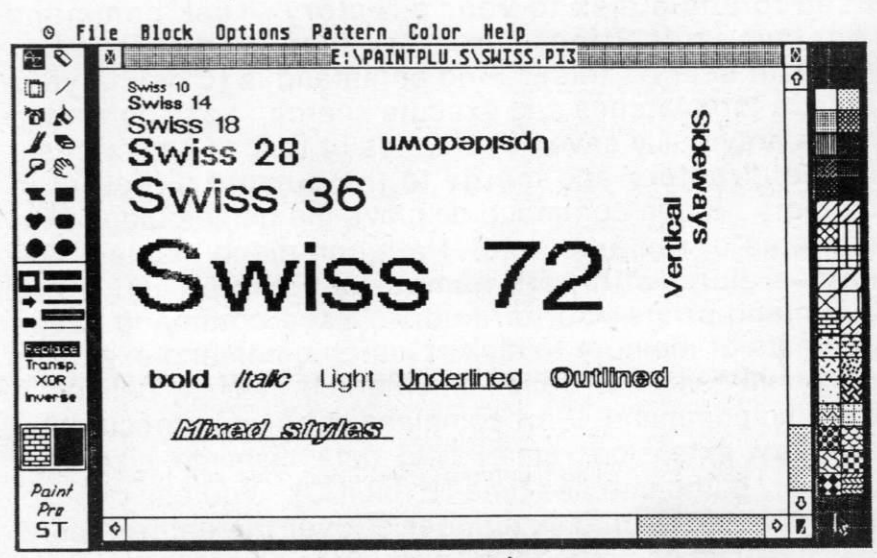






Samples of the ARCHITEC.PIC file imported into Publishing Partner and then reduced to fit into this column and printed on a QMS 800PS laser printer.





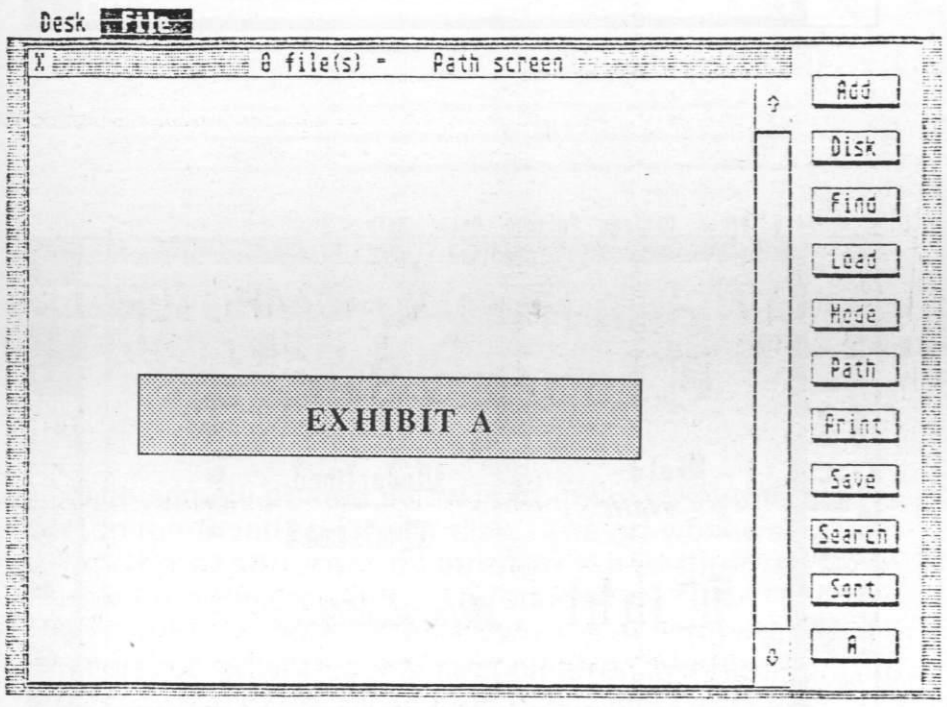
continued on page 20

SUPER DIRECTORY

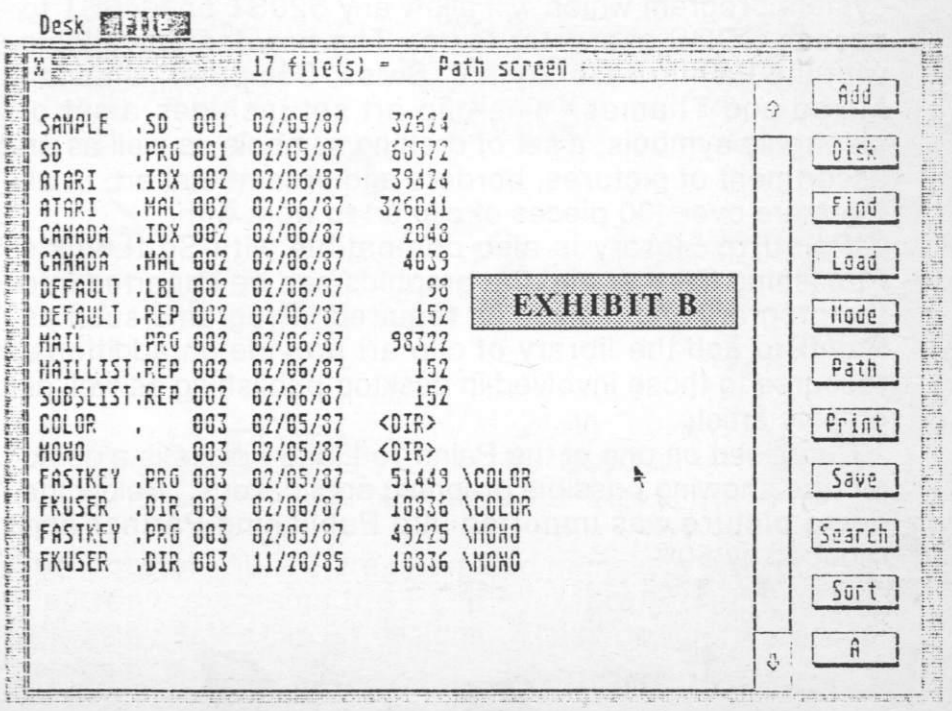
Reviewed by *Julia Yudakuski*

There have been a few disk directory programs released for the Atari ST but none match the power and versatility of Michtron's new **SUPER DIRECTORY**. Super Directory will keep track of all your program and data disks including those on a hard disk.

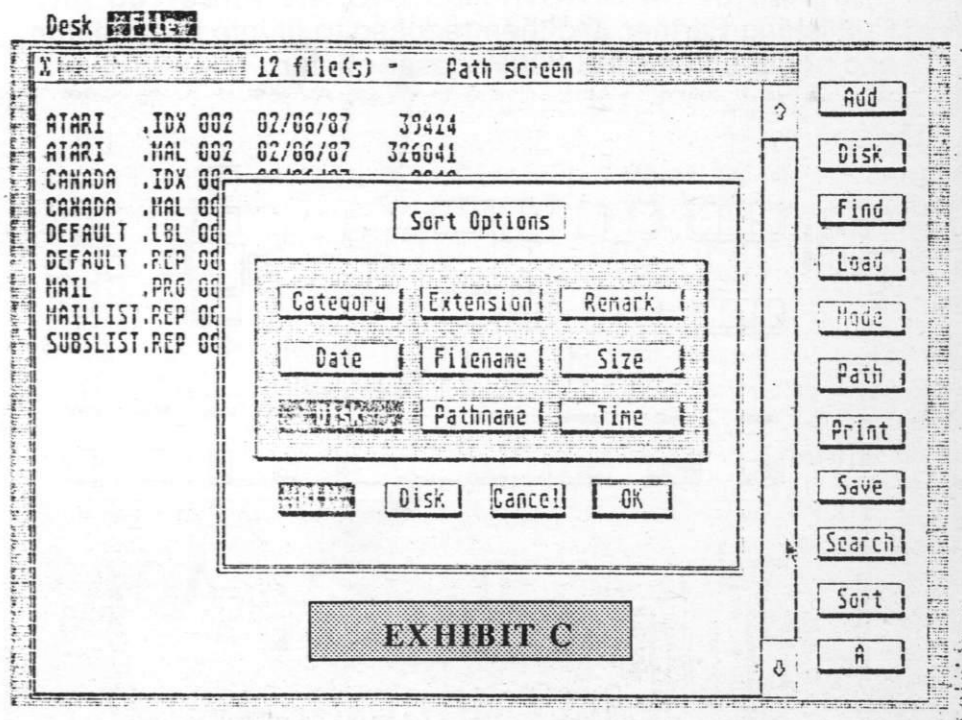
Super Directory provides you with six fields to identify your files: filename, disk number, category, filesize, pathname and a remarks field. In addition, when your disk is read Super Directory also records the date of your file. The disk number, category and remarks fields are user inputted fields and the file name, extender, file size and path name are recorded by Super directory.



The initial screen display upon loading is a blank screen with 11 command boxes (exhibit A) labeled Add, Disk, Find, Load, Mode, Path, Print, Save, Search, Sort and A. The documentation is a little sketchy on some of the Command functions, the following descriptions are from my experience with the program. The ADD command is used to add a disk to your directory. Disk command displays your Super Directory files by disk number (explain later on this). Find command is to define your criteria for searches and execute search. Load command loads previously saved directories or to load a previously saved directory and merge to the current directory in memory. Mode command displays file names along with contents of remarks field. Path command displays file names along with path names (see exhibit B). Print command prints your directory. Save command saves contents of memory to disk. Search command executes or continues search based on criteria previously defined in the Find command. Sort command sorts your directory by category, extension, remark field, date, filename, size, disk number, pathname and time (Exhibit C). You can choose to sort within each disk number or over the entire record file. The last command A allows you to select the desired drive to load disk directory files from.



Now let's get started and catalog your disk into a directory. From the initial screen we'll select command A and choose A drive to load disk directories from. Now selecting the ADD command will bring up a dialog box to enter a DISK number of up to 3 characters, either alpha or numberical or a combination of both. Michtron suggests that you use only numeric numbers such as 001, 123, etc. I suggest that you also label each of your disks with the number you select for easy identification and then keep them stored in some assemblance of numberical order for easy future retrival. You may continue this process until you have recorded all of your disks or reached the limits of your systems memory, at which point you will have to select the SAVE command and save them to your



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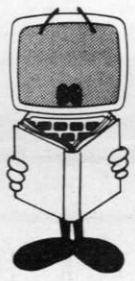

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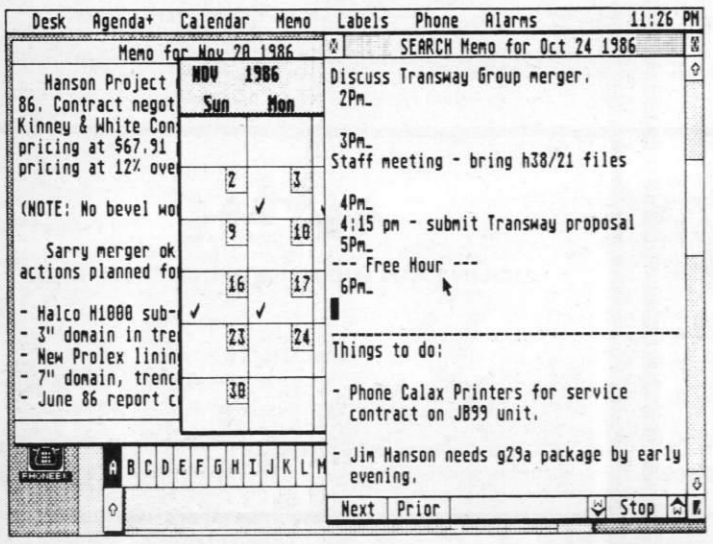
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TOY FAIR 87'

The 87' Internationational Toy Fair was more like an electronics show than the traditional toy shows of board games, dolls, models airplanes and roller skates.

Electronic toys ranged from new lines of laser tag games to Fisher-Price's Pixelvision B&W camcorders for $150 that records up to 11 minutes of video with sound on a standard C-90 audio cassette. A complete integrated modular component audio-video styled just for kids. The system dubbed Wondervision includes a 13 inch wireless remote and cable ready color TV with on screen channel display, videocassette player and AM FM radio-cassette system for $499 or the TV and VCP seperately for $299 each. Options include a infrared remote audio transmitter for use with a wireless speaker or wireless headphones at $49.00 each.

The electronics game market brought newcomers Nintendo and Sega armed with a full line of high performance videogames. Atari is not idlidly standing by and letting Nintendo and Sega take over the game market because of the success of the Atari ST.

Atari introduced its new **XE GAME CONSOLE** which will retail for under $150.00 and bundled with three game cartridges, a keyboard for interactive games, joystick and a pistol for target games. There is a $99 optional disk drive that allows the system to run any game software designed for Atari's line of **XE computers.**

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New product announcements for VOL II, No. 3 must be received no later than March 20, 1987 for inclusion in NEW PRODUCTS section. Advertising reservations must be made no later than March 12, 1987.

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COLOR SCANNER FOR ATARI

CONTINUED FROM PAGE 1

contrast black and white and four level gray scale to work with.

Computereyes automatically recalibrates the brightness and contrast every time you capture a new image. With simple sliders you are able to adjust the brightness and colors after capture. The white balance is also automatically calibrated to produce natural color balanced images. Through the use of a slider control the red, green and blue colors can be adjusted for special effects or just to your preferences. If you plan on making hard copy reproductions and do not have a monochrome monitor available, using a black and white camera on a color system produces very good results. In addition to the on-screen sliders and buttons provided on the control panel there is an option "SELECT # COLORS" that gives you additional control over the appearance of your images. Use 14 to 16 colors for capturing images of faces, multicolored or shaded objects. If you are capturing a image with just three colors, like the flag (red, white and blue) using the "SELECT # COLORS" option you would use 3 and force Computereyes to display the entire image in three colors. To get exactly what you want you can also adjust the shading to a crisper definition.

While the image is in the captured stage you can make as many changes as you like. Once you have saved the image, it cannot be re-loaded and adjusted. So if you want to make changes or have different versions of the image, save each change to your disk.

Using a color monitor you can save your images in all three available formats; Neochrome, Degas and Degas Compressed, (with different file names).

Now that we are experienced users... hooking up the monochrome monitor and black and white camera was a snap. In the monochrome mode HiRes images consist of 640 pixels horizontally by 400 pixels vertically and takes 24 seconds to scan an image. In LoRes it takes 6 seconds and MedRes it takes 12 seconds. If you plan to make hard copies of the images use a monochrome monitor for a higher quality reproduction.

Using the monochrome monitor is also a lot easier since you do not have to worry about the color resolutions and adjusting the contrast and brightness. It is not difficult to make the adjustments but it's another procedure that you can do without on a monochrome system.

Digital Vision has provided the capability to format a disk while in Computereyes, delete files and rename files as well as save and load. The latter function is of little value since you can only load and view previously saved images.

Capturing images and using them with Degas or Neo to alter them is a fun and entertaining use for Computereyes and will provide hours of enjoyment. On a more practical side, if you are using SoftLogik's Publishing Partner, Computereyes can serve as a inexpensive digital scanner. You can use Computereyes as a digital scanner for photos, line art, renderings, art work, etc. Most documents that contain a large amount of text will still require a digital scanner but most digital scanners are priced over a thousand dollars and Computereyes is under $250. Digital Vision has done an excellent job in providing the Atari ST user with a *state of art* "color video scanner", **COMPUTEREYES.**

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HARD DISK BACK UP! reviewed by MARK DEAL

FLASHBACK ($29.95) - is a simply hard disk utility back up program. The program is completely menu driven and requires only the use of the mouse, there are no keyboard inputs. The program contains two sections. One for backing up drives C, D, E, and F drives to A, B, C, D, E, and F drives, the second restores from drives A, B, C, D, and F to drive A, B, C. D, E, and F. Selection is done by clicking on the appropriate boxes.

The back only copies sectors that have actually been used, so the time the back up actually takes is based on the amount of data used in the partioned section of your hard disk. It is important to remeber to keep your back up disks in the order that you backed them up or they will be rendered completely useless in the event that you need to use them.

Backed up data disks cannot be used as they are, meaning that you can not take a back up disk and use the data or the the programs directly from them, they *must* be transferred back to another disk or hard disk with the restore program before the data or programs may be accessed. Using Flashback for backing up disks is NOT recommended.

During my test, Flashback performed without any problems and even formatted one of my disks that I accidently inserted. If you are a hard disk user...Flashback may be what you need.

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THE INVENTORY MANAGER ($79.95) - A comprehensive inventory control system with custom reporting and sales projections based on sales history. The Inventory Manager handles up to 40,000 parts and is ideal for small business and retail operations.

REGENT BASE 1.1 ($99.95) - A new version of Regent Base, the popular relational GEM database has been released with 25 new commands, a GEM based utilities program and new applications have been added. Two examples of Regent Base applications included with complete documentation are: Personal Checkbook Manager and Personal Mail list Manager. Register owners of Regent Base may obtain an update for $25.00 for a limited time. Regent Base 1.1 is compatible with monochrome and color 520ST and 1040ST systems.

H&H ENTERPRISES
P.O. Box 2672
Corona, CA 91718
(714) 737-1376

MOUSETOP ($5.95) - is a silver/grey fur mouse with glasses that protects the computer mouse.

TAB BOOKS, INC.
P.O. Box 40
Blue Ridge Summit, PA 17214
(717) 794-2191

1001 THINGS TO DO WITH YOUR ATARI ST ($12.60) - Available with disk for $32.95. The illustrated guide includes a treasure trove of ideas for getting more from your ST. It reveals numerous techniques for using the Atari ST in many practical ways, to forecast weather, help children make better grades, calculate camera settings, keep any business on the road to higher profits, solve technical problems and play games.

ATARI ST GRAPHICS AND SOUND PROGRAMMING ($14.60) - Featuring a fascinating collection of more than 50 commercial quality programs, this learn by doing guide makes it amazingly simple to master basic graphics and sound concepts for applications ranging from home, professional, and business use to games and puzzles. Beginning with descriptions of the Atari ST editor, BASIC sound and graphics statements, graphics modes, and use of color. How to create programs using character graphics and high resolution graphics and even how to give motion to graphics with animation.

PASSPORT DESIGNS, INC.
625 Miramontes Street
Half Moon Bay, CA 94019
(415) 726-0280

MIDISOFT STUDIO ($99.00) - A full featured MIDI sequencer for the Atari ST systems. It forms the heart of a home MIDI recording studio for making demos, composing new songs, or just having fun. Midisoft Studio makes it easy to lay down multi-track sequences with its main menu screen controls and clean user interface. All the information needed is right on the screen and you can quickly see what tracks are playing and what instruments you are using.

INFOCOM SOFTWARE
125 Cambridge Park Drive
Cambridge, MA 02140

ZORK TRILOGY ($69.95) - Text adventure game with powerful language parser available for monochrome and color operation. The continuing saga of the Zork adventure.

A.N.D. Corporation
114 Cherry Street
Westwego, LA
(504) 436-4536

CASH REGISTER 1.7 ($49.95) - Is a point of sale check out program for medium to small retail outlets. It allows up to 3,000 items on a single sided disk and up to 8,000 items on a double sided disk. Features include: Personalized sales receipts, variable discounts, refunds, manual entry, auto inventory search on any or part of a field, pre-defined tax amounts, 40 column printer output, disk fill of all sales slips, numbered sales receipts, and a full featured Daily Resolve Program for update inventory, generate orders, sales slip justification, tax tallies, refund list tally. All ASCII files allow for use of Text Processor for customized messages. The CASH REGISTER is non-self destructive in that you may freely exit or re-enter the program without any ill effects. This allows the computer to be used for other tasks during slow sales periods.

CASH REGISTER PLUS ($399.95) - Includes CASH REGISTER 1.7 program and a cash drawer which interfaces to the Atari ST for a complete retail point of sale registration system.

TOUCH SCREEN REGISTER ($289.00) - Touch screen to interface with the above system with or without the cash drawer. Plugs directly into the modem port of the ST without any additional hardware interfaces.

RATIONAL VISIONS
7111 W. INDIAN SCHOOL ROAD, #131
PHOENIX, AZ 85031
(602) 846-0371

PROLOG programming system ($39.95) - Full featured programming system tool for building AI applications and expert systems. The system uses Edinburg standard syntax, so it is compatible with most of the popular tutorials on the Prolog programming language. An EMACS style text editor has been implemented within the system's interpreter. This feature forms the basis for an efficient, mode free, interactive programming environment. The programmer can interact with external disk files, the internal knowledge base, or even invoke Prolog goals, all from within the editor. Natural language interfaces may be developed using the built in grammar rule translator (DCG). All of Prolog's powerful meta-programming primitives have been implemented. These are the primitives that make possible the development of sophiscated translators, learning systems, and adaptive planners. Floating point values are supported and extended math functions have been provided. Atari specific features include a full complement of GEMDOS primitives and interfaces to the VDI and AES. The system is not copy protected and supports user written applications free of licensing restrictions.

PREVIEWS

CONTINUED FROM PAGE 14

ANTIC PUBLISHING, INC. (The Catalog)
524 Second Street
San Francisco, CA 94107
(415) 957-0886

FUTURE DESIGN ($24.95) - is a new series of clip art on disk for use with CAD-3D. The Future Design collection is a sort of high tech "erector set" of dimensional modules, including parts for starships, space stations, vehicles and android robots. There are over 100 modular parts for creating sci-fi computer animated video films with complete instructions. Included is a set of genuine blueprints demonstrating the type of high quality output achieved with the new GDOS printer drivers in CAD-3D 2.0

GENERAL INSTRUMENTS SOUND TOOL (G.I.S.T.) ($34.95) - Is a interrupt-driven sound driver that replaces the original factory programming with nine ADSR waveform envelopes and nine Low Frequency Oscillators. The independent G.I.S.T. driver is compatible with all C, assembly, FORTH, and Pascal programs. The G.I.S.T. sound editor also makes this package especially enjoyable to non-programmers. It provides real-time graphic control over all new parameters, making it the best available laboratory for sound and waveform experimentation.

PSION LTD.
1st Floor, Port of Liverpool Bldg.
Pier Head, Liverpool
England

CHESS ($59.95) - is more powerful than many dedicated chess playing computers and festures a stunning three-dimensional animated display of the board and pieces. With a comphensive array of analysis commands and 28 levels of play from novice to champion, it is a complete computer chess program, suitable for players of all standards. A detailed description of all the features and options available can be called up on screen by using the help command in the Psion menu. Most of the features and options are self explanatory so the easiest way to learn is just to use them. The program is supplied in six languages on one disk, English, French, German, Italian, Spanish and Swedish.

SIERRA ON-LINE
P.O. Box 485
Coarsegold, CA 93614

KING'S QUEST ($49.95) - is the first of a new generation of Sierra computer graphics. Its revolutionary design features three-dimensional graphics of unparalleled quality, animated characters that run, swim, and attack. You can play this game over and over again because there is no way to solve each mystery and overcome each obstacle. The journey will surely prove long and treacherous and you may choose among many paths open to you. The more clever and resourceful you prove yourself, the more points you score. This program also includes map skills that will prove helpful, since the adventures contain hundreds of full color images which can lead you in every direction.

TRANSFORMATION TECHNOLOGIES
10509 San Diego Mission Road, Suite T
San Diego, CA 92108
(619) 283-9328

ADVENTURE IN TOYLAND ($24.95) - Preschoolers education program to aid in learning the alphabet, numbers and shapes. Contains animated graphics and Building Blocks, Gingerbread House and Animal Round-Up games. Runs on color or mono systems.

OMNICRON SOFTWARE
Diemstrasse 24
5100 Aschen, W. Germany
0241 / 66 955

KEYCLICK ST - A desktop accessory that can reassign 100 different keys on your keyboard with a sign code of up to 30 letters. Compatible with all programs, reassign your keys to input repetitive text, for example you could assign a function key to your name and address and when you want to enter it just hit the function get instead of having to retype it.

MICHTRON
576 S. Telegraph
Pontiac, MI 48053
(313) 334-5700

GFA COMPILER - Extremely fast 2 pass compiler converts your finished GFA BASIC programs into compact, faster running machine language files, that operate without the aid of a runtime module. Utilizes all GEM features including mouse controls, windows and drop down menus. No license fees for using GFA Compiler in your commercial programs.

ATARI CORP
1196 Borregas Avenue
Sunnyvale, CA 94086
(408) 745-2000

VT100 EMULATOR CARTRIDGE ($49.95) Emulates VT100 includes all features except 132 column mode. Simple upload/ down capability.

XLENT SOFTWARE
P.O. BOX 5228
SPRINGFIELD, VA 22158
(703) 644-8881

P.M. INTERFACE - Convert Degas files into PrintMaster graphics or design new borders and fonts. Design new graphics and fonts for use with Degas, PrintMaster, Typesetter ST, Rubber Stamp ST, Typesetter Elite and Megafont ST.

SOFTLOGIK CORP.
4129 Old Baumgartner
St. Louis, MO 63129
(314) 894-8608

ELECTRO CALENDAR ($39.95) - GEM based calendar program to log dates, appointments. Search feautre allows easy location of events or names between a series of dates. Display and printer calendars, compatible with color or monochrome monitors.

MICRODEAL LTD.
41 Truro Road, St. Austell
Cornwall, PL25 5JE
England
(7) 266-8020

DISK HELP - Designed for the non-programmer to check, repair, and salvage information from damaged disks. No knowledge of disk controllers or formats is required to use this utility. All functions are menu driven with full on screen instructions and functions selected execute automatically. A non-programmer can check disk for bad track/sectors, repair damaged sectors, reformat a disk without disturbing the data and salvage data from a damaged disk. Works on single sided and double sided disk drives, compaitble with monochrome or color monitors.

COMPILED FROM PRESS RELEASES

ST FORTH/MT

REVIEWED by KURT MADDEN

STFORTH M/T is an implementation of the Forth programming language on the Atari ST. The Forth programming language was developed over a 20 year period by Charles Moore and other programmers. It is a stack oriented language that is both interpretive and compiled. It has been primarily used as a system language and for robotics and artificial intelligence.

There are three basic versions of Forth in use today. The oldest is FIG-Forth developed in the early days and put into the public domain by members of the Forth Interest Group (FIG). The next version to be commonly released and adhered to was the Forth-79 standard. The most current release that you will find in use today is the Forth-83 standard.

ST FORTH M/T is a powerful implementation of the old FIG-Forth standard. It provides for multi-tasking (hence the M/T) and gives access to the lower level LINEA graphics in the Atari ST. The manual for STForth is designed with the power Forth user in mind and will not, I repeat, will NOT teach you the language of Forth. This seems to be common practice with most Forths, so don't put unnecessary blame on Abacus. There are numerous books out on the Forth language available in the computer section of your local bookstore and you will need one if you are interested in learning this powerful language.

Before I begin discussing the features of this Forth, a few preliminary comments concerning the nature of the FIG-Forth standard should be helpful in understanding the basic drawbacks of this version. The FIG-Forth standard was developed before the standardization of operating systems (e.g. CP/M or MS-DOS). In fact it was developed when the IBM 8-inch floppy was just becoming a standard. ST Forth/MT uses this old FIG standard and breaks the disk up into sectors (or blocks) instead of using the normal TOS file structure on the Atari. This means you cannot save new TOS files onto your program disk and when you want to copy any Forth programs you have created, you MUST copy the entire disk. STForth does allow you to use the ST Bios calls in order to keep standard TOS DATA files on another disk.

The second major drawback in this Forth is that it is NOT relocatable. You must eliminate all of your desk accessories and use a special loader called START.TOS to load STForth in. This is because ST Forth/MT must load into the same spot in memory each time. This again was the elemental nature of the old FIG-Forth and it escapes me why a product developed in the mid 1980's would limit you to early 1970's technology.

The last major disadvantage of this implementation of Forth follows from the first two. Since it is a TOS program and not a 'GEM' program, the foundational graphics and application tools including menus, windows, and piping provided by AES and VDI are not available. They have provided the low level graphics calls defined by Atari as LINE A functions, but this is a far cry from using the GEM operating system for application development. I could not recommend this Forth to anyone who wants to develop GEM-based applications or to anyone who wanted to learn the Forth language.

So much for the bad news. The good news is that if you want to develop a new operating system for the Atari or use the Atari to control devices using the many different ports available (e.g. MIDI), this Forth could be for you. It is reasonably fast, provides access to all TOS operating system calls, an assembler and disassembler, and an extensive vocabulary.

You can use either single or multi-tasking Forth, a feature that can be very powerful if the user implements it correctly. The multi-tasking version runs slower than the single version, but the advantages depending on the application could be well worth the extra time. Using the multi-tasking system takes a great deal of experimentation, as the manual is a bit weak in providing examples of how to use this powerful feature. A familiarity with other multi-tasking systems would be helpful here.

Since Forth is designed to be expandable, the base system provided is important.

SOME HIGHLIGHTS OF THE ST FORTH/MT SYSTEM

- String Comparisons
- GOTO statements (abhorred by purists)
- Access to TOS commands
- LINEA Graphics commands
- CASE statement (very handy)
- Floating Point module
- RAM Disk (useful for large compiles)
- Several helpful Utilities
- Forth Assembler
- Turnkey System (Must contact Abacus re: Royalties)
- Access to mouse and keyboard routines
- Access to protected memory
- Ability to save an extended vocabulary
- Ability to use color monitor (you lose the Help screens)

In summary, I am a little surprised that Abacus released this Forth. After using and reviewing other products by them I have felt that Abacus provides some of the most useful and highest quality software programs for the Atari ST. ST Forth/MT was developed by some programmers in West Germany and is distributed by Abacus and therein may lie the problem. Abacus' 68000 Assembler package was developed by programmers in West Germany also...but I can guarantee you the programmers are not the same as the ones that worked on this Forth. The 68000 Assembler uses the GEM to full advantage and is by far the finest 68000 Assembler on the market. This Forth implementation falls far below the standards set by all other Abacus software that this reviewer is familiar with.

ABACUS SOFTWARE
P.O. Box 7219
Grand Rapids, MI 49510
(616) 241-5510

Super Directory continued from page 10

directory disk.

Should your directory file become larger than your systems memory do not worry, just save the current directory to disk, each record requires 80K of space and your disk will save several thousand records. You will be able to merge them all into one file later. At the time you need to locate your records there is a "find ALL mode" command that breaks up the files into more manageable chunks to fit into memory.

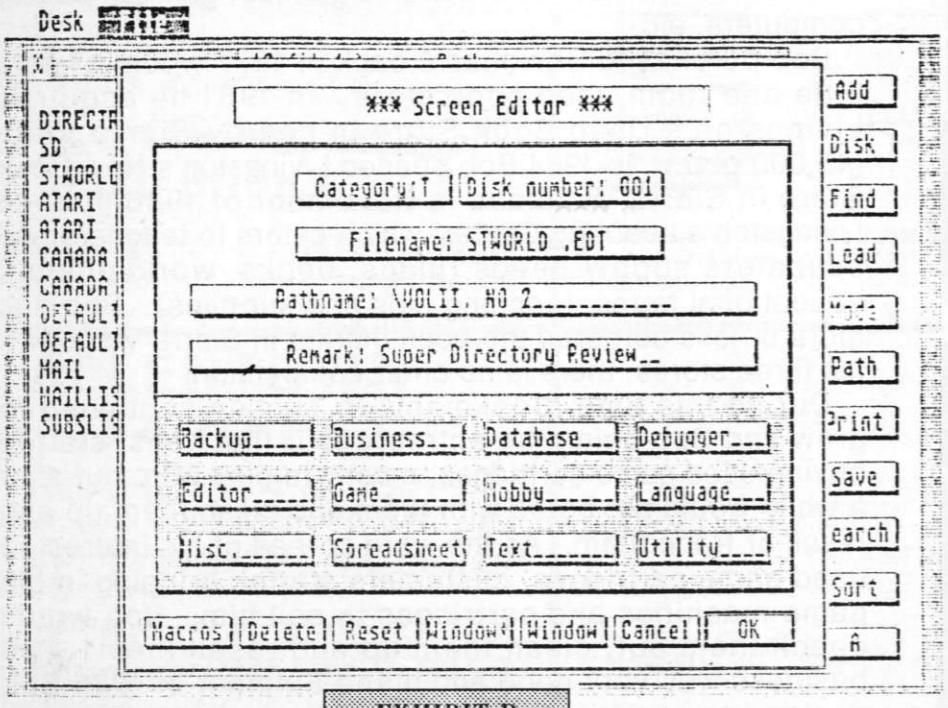


EXHIBIT D

After you have loaded your disk directories you can go back and select the MODE command and then double click on one of your file names and a screen editor dialog box will appear (see exhibit D). You can now add some addtional descriptions to help you identify your files in more detail. The first is the Catagory field, you are allowed only one character here. I suggest you use the first character of one of the 12 listed in the shaded area of the dialog box, B for business, U for utilities, etc. The next file is the REMARK field where you can add descriptions of up to 25 characters or you can click on one of the 12 boxes. In case you are wondering, the purpose of the 12 boxes is save you time in entering a description. To enter one in the remarks column click on your choice and the selection will be placed in the remarks column. Nice touch, but a waste of the field.

The seven boxes on the very bottom of the screen are self explanatory *except* WINDOW, WINDOW+ and MACROS. The WINDOW selection allows you to EDIT all the records displayed on the screen, the WINDOW+ allows you to EDIT all the records starting from the beginning of your record file. The MACROS box, you will have to discover for yourself, I couldn't find a use for it.

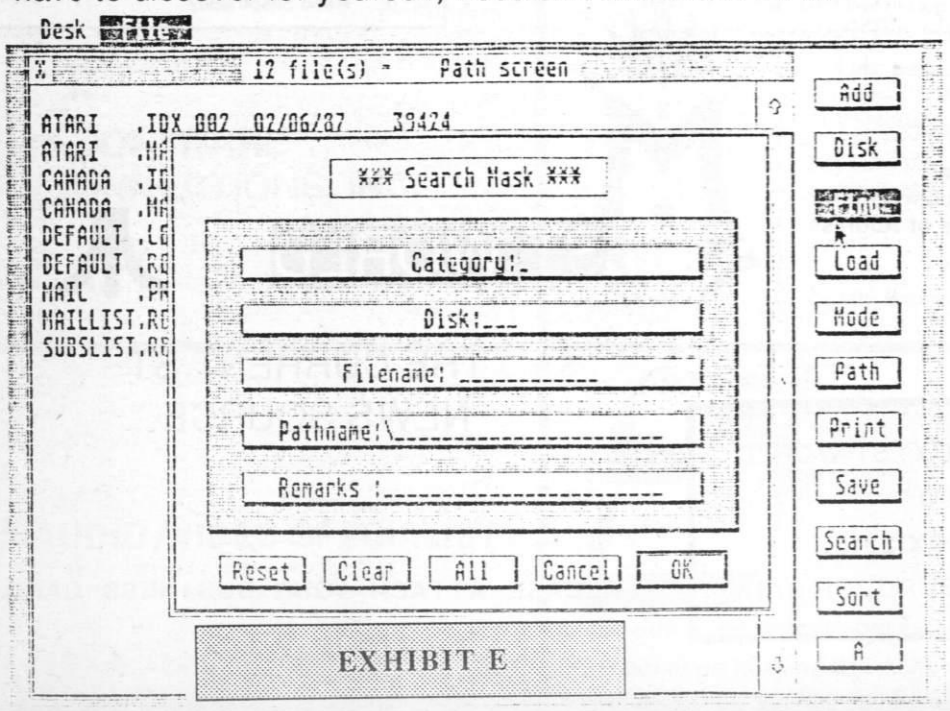


EXHIBIT E

The power of Super Directory lies in the SEARCH routine, when you want to locate a file or files. Selecting the FIND command will display a dialog box for entering your seach criteria (Exhibit E) Enter your search criteria and click on OK and the file will be displayed with all the accompanying file information. Super Directory allows the use of wild cards and ?. If you are searching for a group of files with the same criteria you can click on the SEARCH command box and the next file with the recriteria entered in the FIND command will be displayed (SEARCH should have been labeled CONTINUE). Continue to click on the SEARCH box until you have located all your files. If you want a hard copy of the files click on the PRINT command and a dialog box will appear for you to enter the criteria (Exhibit F) and the requested files will be sent to your printer.

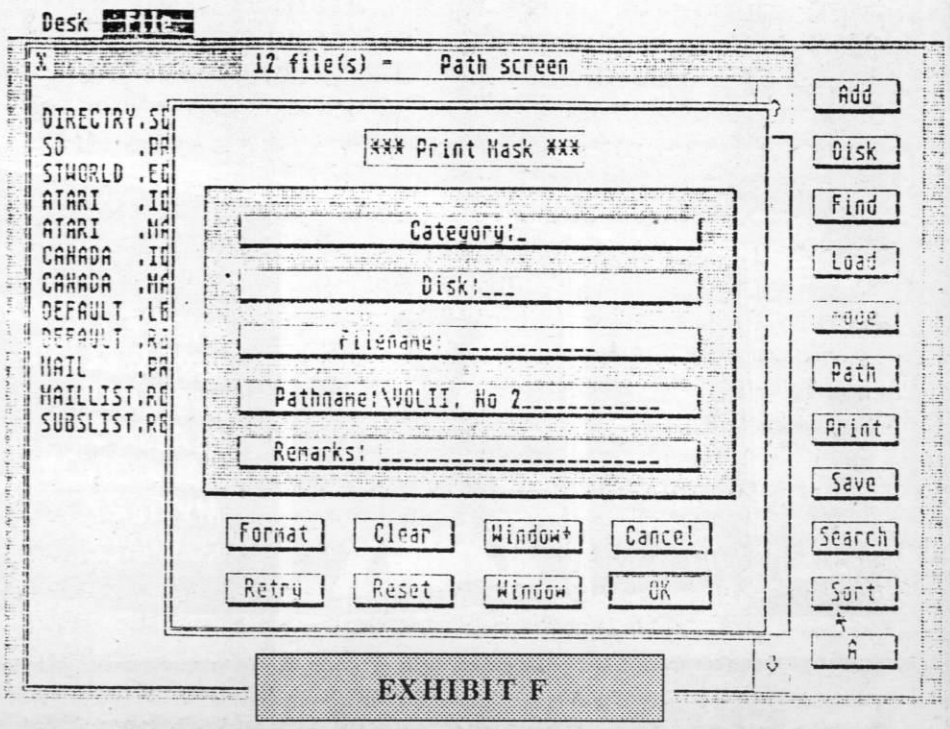
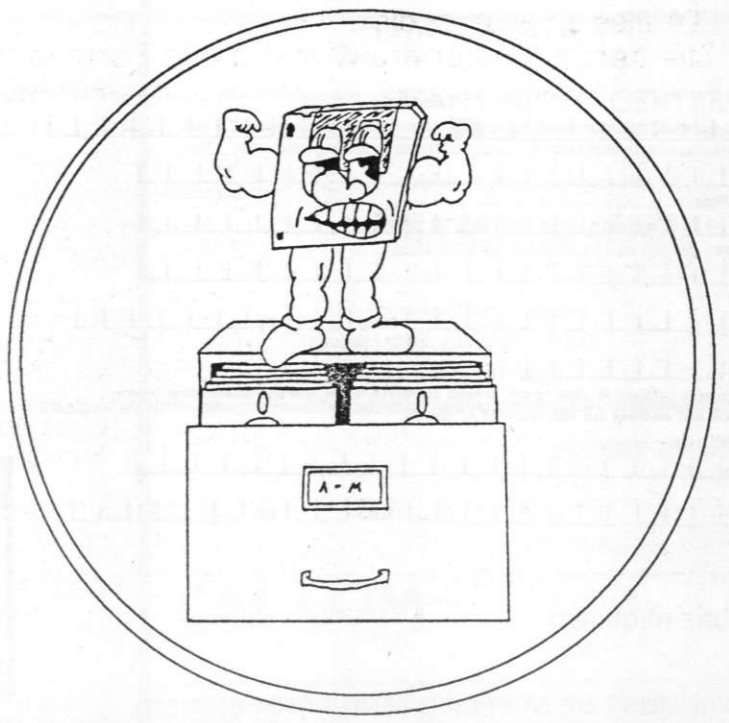


EXHIBIT F

Super Directory is just that, **a SUPER DIRECTORY**. I found it very easy to use in spite of the lack of documentation for some of the commands. SUPER DIRECTORY has a permanent home in my library and I highly recommend that you make a place for SUPER DIRECTORY in yours.

MICHTRON INC.
576 South Telegraph
Pontiac, MI 48053
(313) 334-5700



BOOKMAN'S

IS A COMPUTER STORE ?

Bookman's (Tucson, AZ) seems like a strange name for the largest Atari Computer Dealer in Tucson, AZ, in fact even stranger is the full name of the original store, "Bookman's Used Books, Records & Magazines". The owner of Bookman's is Bob Schlesinger, a young entrepreneurial, straight forward kind of guy who is also a computer hobbyist. Bob's has had some programming training, and had built from scratch a Heathkit PDPII computer system a few years back. Bob never had any plans to get into the computer business, he admits he is electronics nut! Loves electronic gizmos, games, lasers, computers, etc.

Bob purchased Bookman's back in 1977 when it was a little one room used book store. In 1981 he acquired Livingston's Used Book Store in nearby Sierra Vista (45,000 pop.). In 1984 Bob opened Livingston's New Book Store in Sierra Vista and in November of 1986 opened Livingston's Learning Center, which caters to teachers and educators supply needs (maps, books, world globes, educational tapes, teaching aids and supplies). Bob has more or less cornered the book market in Sierra Vista with his three stores, there is no other competition.

During this time, Bookman's in Tucson continued to grow and Bob being the entrepreneur that he is, started buying used game cartridges, mostly to play with, but after a while would get bored with them and clean them up and resell or trade them. As the word spread of his interest in used game cartridges, customers started bringing in old game machines and cartridges to sell him. Bob would check them out, clean them up and resell them. The business was very good and in the Summer of 1985 Bob decided to stock some new Atari game cartridges and

CONTINUED ON PAGE 19

A FREE SUBSCRIPTION TO QUALIFIED SUBSCRIBERS

1. Which best describes the primary type of outlet at this location? (Check only one.)

- [ ] A. Computer Store
- [ ] B. Software Store
- [ ] C. Office Machine/Office Supplies Dealer
- [ ] D. Consumer Electronics Retailer
- [ ] E. Mass Merchandiser including Department Store, Discount Store and Catalog Showroom
- [ ] F. Distributor, Wholesaler and/or Manufacturer's Rep.
- [ ] G. Manufacturer and/or Supplier
- [ ] H. Independent Reseller
- [ ] I. Systems House
- [ ] J. Value-Added Dealer
- [ ] K. Consultant
- [ ] L. Software House
- [ ] Z. Other _____ (please specify)

2. Which best describes your title? (Check only one.)

- [ ] A. Owner, Partner, President
- [ ] B. Vice President, General Manager, Director
- [ ] C. Marketing Manager
- [ ] D. Merchandise Manager
- [ ] E. Inside Sales Manager
- [ ] F. Outside Sales Manager
- [ ] G. Buyer
- [ ] H. Branch, Store, Department Manager
- [ ] I. Inside Sales Person
- [ ] J. Outside Sales Person
- [ ] K. Consultant
- [ ] L. New Product Analyst
- [ ] M Technical Service/Support
- [ ] Z. Other _____ (please specify)

3. Which of the following products/services does your company offer or plan to offer?: (Check all that apply.)

GENERAL BUSINESS
COMPUTERS
- [ ] 01. Desktop
- [ ] 02. Portable
- [ ] 03. Multi-user Micro
- [ ] 04. Super Micro

SOFTWARE
- [ ] 05. Productivity
- [ ] 06. Accounting
- [ ] 07. Vertical Markets
- [ ] 08. Systems Software
- [ ] 09. Educational

PERIPHERALS
- [ ] 10. Printers
- [ ] 11. Plotters
- [ ] 12. Modems
- [ ] 13. Monitors
- [ ] 14. Tape Drives
- [ ] 15. Disk Drives
- [ ] 16. Tape Backup Systems
- [ ] 17. Board Level Products

COMMUNICATIONS
- [ ] 18. Networking Products
- [ ] 19. PBX Systems
- [ ] 20. Telephone Key Systems

MAGNETIC MEDIA
- [ ] 21. Floppy Disks
- [ ] 22. Hard Disks
- [ ] 23. Tapes/Cartridges

SUPPLIES & ACCESSORIES
- [ ] 24. Furniture
- [ ] 25. Power Protection Devices

SERVICES
- [ ] 26. Maintenance
- [ ] 27. Education/Training
- [ ] 28. Software/Systems Design
- [ ] 30. Other _____

4. What is the size of your outside sales force? (Check only one.)

- [ ] A. 1-4
- [ ] B. 5-9
- [ ] C. 10-19
- [ ] D. 20-19
- [ ] E. Over 50
- [ ] F. None

5. Do you have a Showroom/Storefront?

- [ ] A. Yes
- [ ] B. No

6. What are your approximate gross sales? (Check only one.)

- [ ] 01. Below $250,000
- [ ] 02. $250,000-$500,000
- [ ] 03. $500,001-$1,000,000
- [ ] 04. $1,000,001-$5,000,000
- [ ] 05. Over $5,000,000
- [ ] 06. None of the above

7. Which of the following systems does your company offer? (Check all that apply.)

- [ ] 01. IBM
- [ ] 02. Apple
- [ ] 03 Atari
- [ ] 04. AT&T
- [ ] 05 Digital Equipment
- [ ] 06. Hewlett-Packard
- [ ] 07. Radio Shack/Tandy
- [ ] 08. Zenith
- [ ] 09 Televideo
- [ ] 10. NCR
- [ ] 11. Altos
- [ ] 12. ITT
- [ ] 13. Other _____ (please specify)

U.S.A. ONLY

First Name _____ Last Name _____ Title _____

Company _____

Division/Mail Stop _____

Street Address _____

City _____ State _____ Zip _____

Telephone _____

If you would prefer delivery to your home, please complete home address information below
Company name and address are still required to qualify.

Home Address _____

City _____ State _____ Zip _____

- [ ] Renewal
- [ ] New Subscription
- [ ] Change of Address

SIGNATURE REQUIRED _____

Date _____

ALL DATA MUST BE SUPPLIED (AND FORM SIGNED)
SUBSCRIPTION TO BE PROCESSED

MAIL TO : ST WORLD
DEPT. Q
P.O. BOX 2310
ROSEBURG, OR 97470

ST WORLD

THE CURRENT ST NEWS SOURCE

PLEASE ATTACH YOUR BUSINESS CARD

BOOKMAN'S CONTINUED FROM PAGE 18

contacted *Pat Duffy of Mountain Micro Marketing, Inc.* in Phoenix, Arizona, Atari's marketing rep for the area. Pat arranged for Bob to obtain all the Atari game cartridges and machines that he wanted and tried to persuade him to stock the Atari ST or at least the 800XL. Bob was not interested in getting into the highly competitive computer market and just stuck to the games.

The Atari game business was very good for Bob but he still had not gotten into the computer end of the business. Finally in October of 1986 Pat was able to talk Bob into purchasing **ONE** Atari ST. When the ST arrived Bob placed the unit on top of his counter and in his spare time would do a little programming and play around with what few pieces of software was available for the ST then. A few days after receiving the ST, Jeff Johnston, the President of the local Atari group stopped in to see the ST and Bob hired him. Within a few weeks the store was having trouble just keeping ST's up with sales even

JEFF JOHNSTON & PAT DUFFY WITH CUSTOMERS IN COMPUTER SECTION

though there was little software for the ST. Bob says he can remember him having to send his wife to Tucson just to bring back ST's that he had already sold. Most of the ST's were sold then to aspiring ST developers, now with over 1100 titles out softwares no problem and sales continue to soar. After two months of conferencing (Bob calls it harassment) Jeff influenced Bob to start stocking the 800XL and 130XE computers.

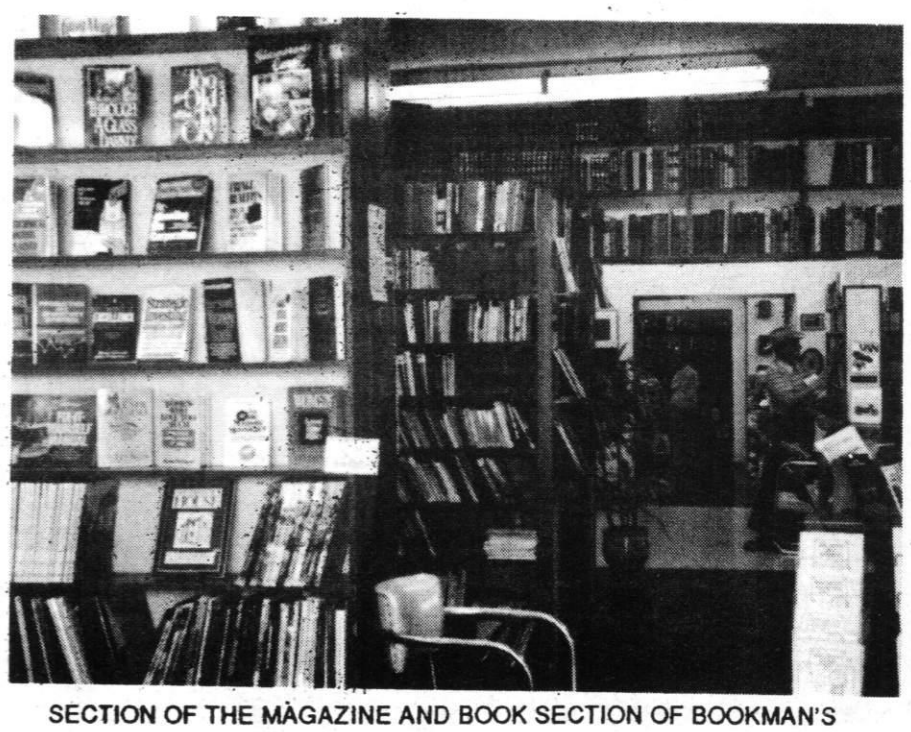
What started out as a small game cartridge reselling sideline has turned Bob Schlesinger's Bookman's into the largest full line Atari Dealer in Tucson. Bob has also added the Atari ST line to the Livingston's Learning Center in Sierra Vista. The success of the Atari ST has provided the financing for him to expand into a new 7,000 square store located on one of the main throughfares of Tucson.

The new store will house the existing book store operations as well as provide an expanded Atari computer showroom, and service department. The current computer showroom area is about 10 X 10 in a corner of his store. The building will also house Bob's new venture with Mark Sloatman, Practical Solutions, the developers of the Monitor Master.

Bob's new love, the Atari ST is also promising new rewards in the months to follow with sales to Ft. Huachucha and Davis Monthan AFB. Over fifty ST's have been sold to base personnel and the sales have opened the door to GSA sales. Our hats off to Bob and his staff at Bookman's, we wish him continued success! Bob's new **Bookman's** store will be opening in April, 1987 and is located at **1930 East Grant Road, Tucson, AZ 85719 (602) 325-5055.**

SIG HARTMANN, VICE PRESIDENT, ATARI CORP CONGRATULATES BOB SCHLESINGER ON OPENING OF NEW STORE.

ATARI SOFTWARE AND PERIPHERALS SECTION

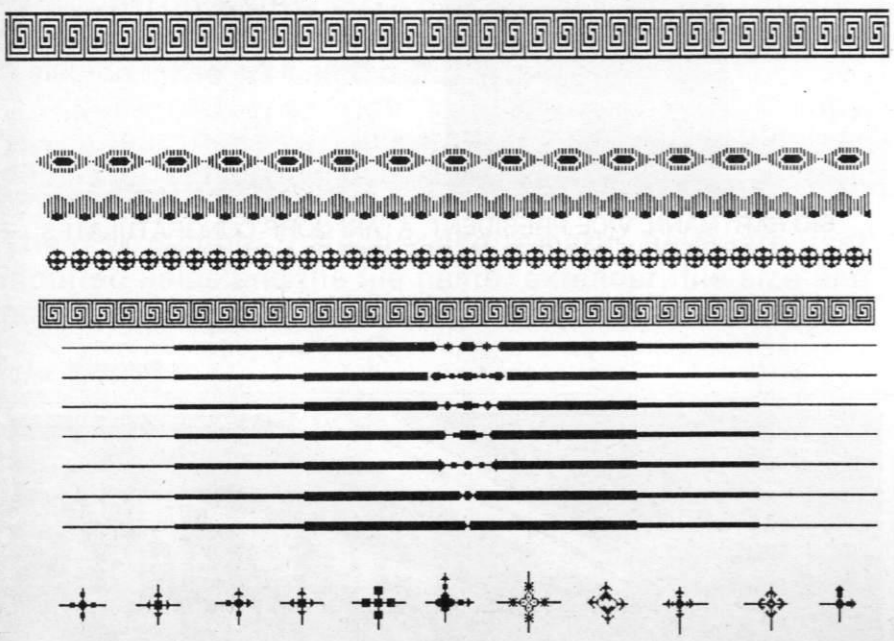


SECTION OF THE MAGAZINE AND BOOK SECTION OF BOOKMAN'S

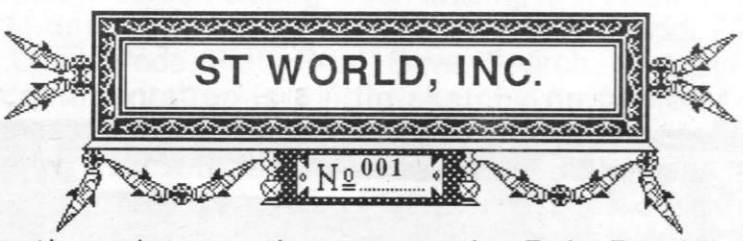
PAINTPRO LIBRARY 1

CONTINUED FROM PAGE 9

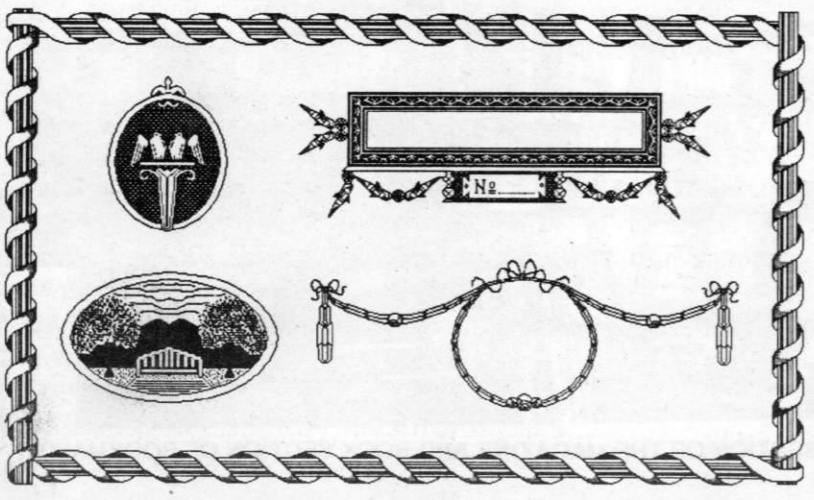
The samples below are from the Borders.Pic file and were imported into Publishing Partner and than reduced to 70% to fit into this column. The border above and below this text was imported directly from the Borders.Pic file and placed in position and resized to fit, but not reduced as were the other examples.



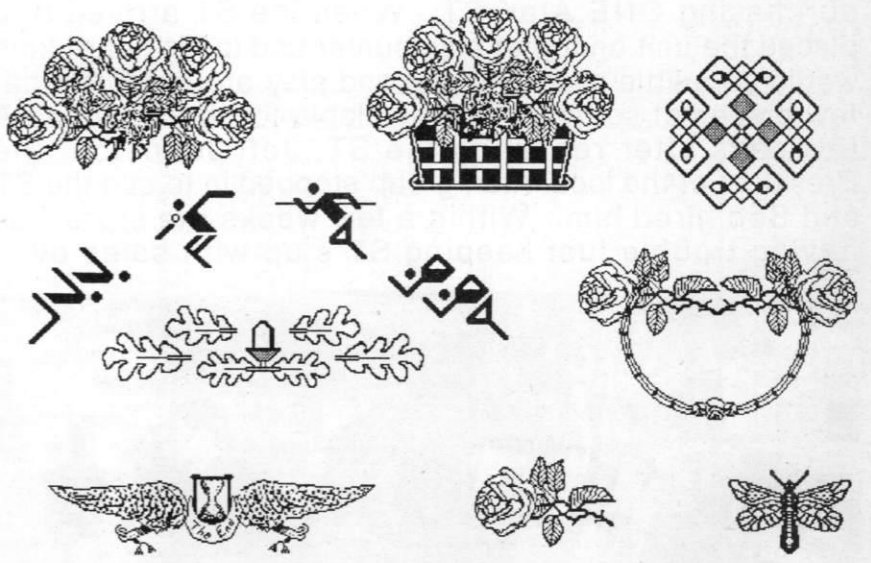
The sample printed below is from the ORNAMENT.PIC file on the PaintPro Library disk. The art work was cliped from the assortment of puictures and imported into Publishing Partner and then reduced by 10%. The text was then entered into the artwork and what you see is thefinished artwork combining picture from the PaintPro library disk and text added from Publishing Partner.



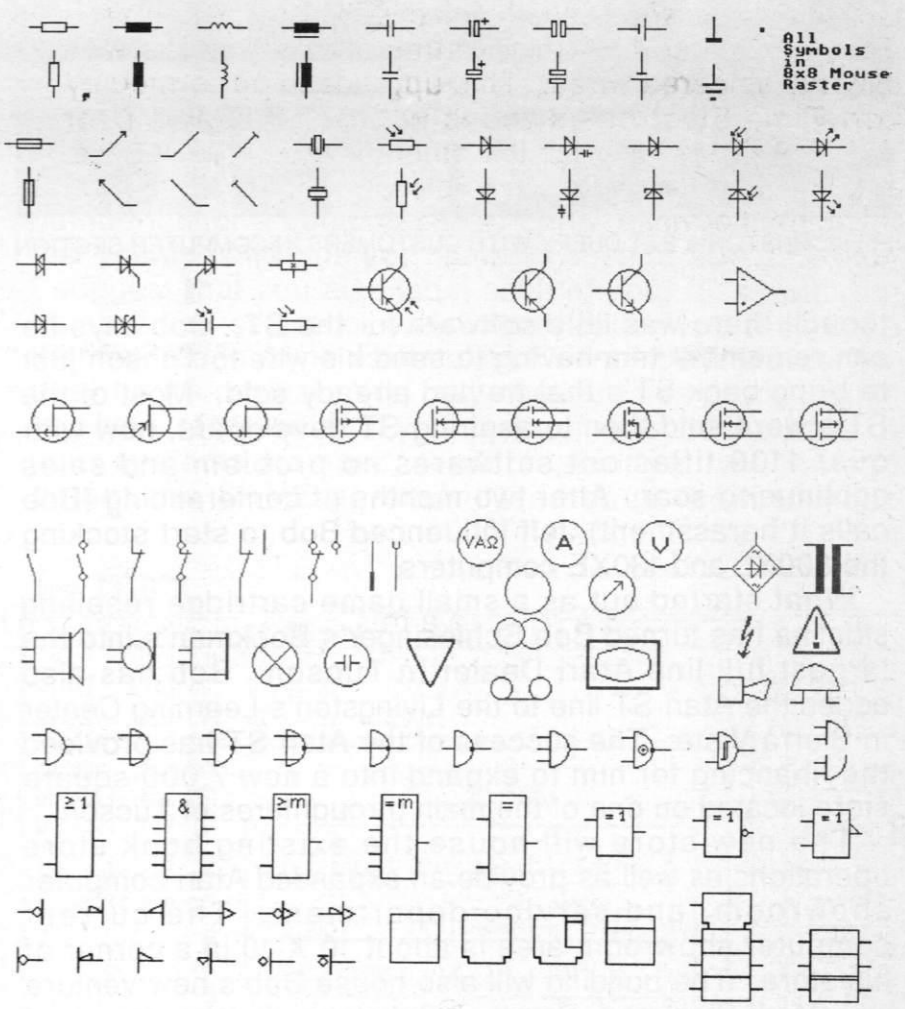
The other pictures that are on the PaintPro Library ORNAMENT.PIC file are reproduced below after being reduced by Publishing Partner 50%



The pictures below are from the ORNAMENT2.PIC file imported to Publishing Partner and then reduced to 60% to fit into this column.



For those of you are are interested in making electrical or electronic diagrams the PaintPro Library contains the following related clip art designs. These designs were also reduce 60%.



ABACUS SOFTWARE
P.O. BOX 7219
GRAND RAPIDS, MI 49510
(616) 241-5510

1 MEGABYTE ST UPGRADES

by JOHN URBANIAK

Have you been shopping around for a memory upgrade board for your 520ST. I just ordered my own ST (I've been using a friend's), and want to have it upgraded to a megabyte when I get it. I am not particularily proficient with a soldering iron and have not had a lot of experience with electronics nor do I feel that I would be comfortable poking around the insides of a ST.

I have been keeping an eye out for competitive prices on upgrade boards for several months so that when I was ready to buy one I would know which to purchase. I found several ST users that had upgraded their ST and contacted them for their opinion and to find out what experience they had with their upgrade.

The three users I found had purchased boards from Thoughtspace Development, Diverse Data Products and Micro-Time Electronics. All three users were happy with their choice and none experienced any problems with their upgrade. The Thoughtspace Development and Micro-Time Electronics upgrade was installed by the company and the Diverse Data Products board was installed by a friend (TV repair technician) of the user.

Looking inside the upgraded units the upgrade from Thoughtspace Development and Diverse Data Products appeared very similar. A board with the chips affixed and piggybacked on top of the existing memory chips and a few wire solders. This is an over simplification but you get the general idea. The upgrade performed by Micro-Time Electronics appeared to be the most difficult installation of the three. Their installation did not have a piggy back board but was accomplished by individually soldering each chip piggy backed to the existing memory chips with additional soldered wires. This upgrade is performed by Micro-Time Electronics and is not available as a user installed upgrade whereas the other two are. The ST that was upgraded by Micro-Time also contained a internal clock card that was installed at the same time.

Getting down to costs, I was very surprised that the Micro-Time Electronics installation was the least expensive of the three. Their charge for upgrading a 520ST to a megabyte is $106.00, which included insurance and UPS return shipping and for $30.00 more they will install a internal clock card at the same time. You have to pay your own shipping costs and insurance to get it to them. Thoughtspace Development charges $149.00 for the upgrade board and an additional $25.00 to install it, plus UPS shipping and insurance both ways. Both companies offer warranties on their installation. Diverse Data Products upgrade board is $149.95 and they do not offer installation, I was told that the installation was relatively easy, only three wires to solder. Keep in mind that your Atari warranty is void as soon as you install any of these upgrades.

I have not yet made a decision on which upgrade board I am going to have installed in my ST. For now I think I will wait until my Atari warranty expires before I have any upgrade board installed. I'll write another article when I have one installed and let you know my experience with it.

THOUGHTSPACE DEVELOPMENT
2450 WARRING STREET #21
BERKELEY, CA 94704
(415) 845-1415

DIVERSE DATA PRODUCTS
1360 N.W. 191 STREET
MIAMI, FL 33169
(201) 780-2019

MICRO-TIME ELECTRONICS
837 N.E. SIXTH
GRANTS PASS, OR 97526
(503) 476-9509

FREE CHESS GAME

BY *RALPH C. TURNER, J.D.*

How would you like to have a free chess program for your ST? You can, and all you have to do to receive it is make a telephone call.

Although a number of companies are producing commercially available chess games, there is already a public domain program for those of you with a monochrome monitor.

I downloaded this program, called Krabat2, from Atari's BBS, but it's also available on a number of other bulletin boards. It took about eight minutes for my modem to receive the game, so it cost me only about $1.25 in phone-time.

If you're skeptical about how sophisticated a free chess program can be, stop worrying. Krabat is great! For starters, it's mouse-driven, so moving pieces is easy: you use the left mouse button to choose a player, then drag it to its new square. And the bird's-eye view that you get of the board makes Krabat a very easy game to play.

Among Krabat's special features are the ability to choose one of ten logic levels, set how much time you want to give the computer to move, and switch sides with the computer at any time. If you try something that's against standard chess rules, you'll get a warning. (For instance, when I tried to castle after previously moving my king, I got the message, "Hold it, you can't do that.") Pretty nifty!

But the feature I like best is the ability to take back as many moves as I want, at any time. When the computer captures one of my pieces, I just back up two moves, then make a better choice. (Some people might consider this cheating, but I find it a great way to improve my game.)

Although Krabat has a lot of nice features, it does have its limitations: it requires a monochrome monitor, it can't save an unfinished game, and it becomes quite slow if you choose one of the deeper logic levels. But hey, I don't complain when the price is right.

If you'd like to have a partner obediently waiting to play chess with you at any time, give Krabat a try. You'll like it.

- The End -

TOUCH TYPING TUTOR

REVIEWED BY JUDI LAMBERT

Are you still hunting and pecking? Academy Software has a touch typing teaching aid that will help you learn how to touch type quickly. Two programs are included on Academy's program disk, one is "**Typing Tutor**" and the other is "**Word Invaders**".

Typing Tutor contains eight levels of instruction covering the various key strokes of each finger and practice drills. Level one starts you with the basic home keys, "ASDFJKL" and return key. Upon completion of each drill your word per minute count and number of errors will be displayed. The first drill is practice covering the "f", "j" and return key strokes. Successful completion of the drill will continue to additional drills covering the "ASDKL" keys. Upon successful completion of the level; one key strokes, you may advance to level 2. Level 2 adds the "EIRU", Level 3 adds "GH", capitals and period. Level 4 adds "TOWY", level 5 "QPVMBN", level 6 "CZ/?X and comma, level 7 covers the numeric and the hyphen keys. Level 8 is a review of all of the previously covered drills.

Word Invaders is a drill session in arcade game format which when used after each of the lessons in Typing Tutor aids in the profiency of touch typing. A space ship flies across the screen leaving a trail of words. You are to type each character in the word and the corresponding character in the word will be eliminated. Your typing speed and accuracy is displayed after each game so you may monitor your own progress. For children the sound and graphics keep the lesson entertaining, for adults or older students the sound may be turned off if it becomes distracting.

The program follows the standard touch typing lessons found in most high school or college level touch typing text books. Educational institutions that have been using Academy's software have discovered students learn faster and more proficiently when learning to touch type with computer keyboards. Using the computer keyboard and the Academy software also makes learning how to touch type a little less boring. If you are still a *"hunt and peck"* typist you will greatly benefit by the use of "Typing Tutor" and "Word Invaders".

ACADEMY SOFTWARE
P.O. BOX 6277
San Rafael, CA 94903
(415) 499-0850

ATTENTION

SUPRA HARD DISK OWNERS

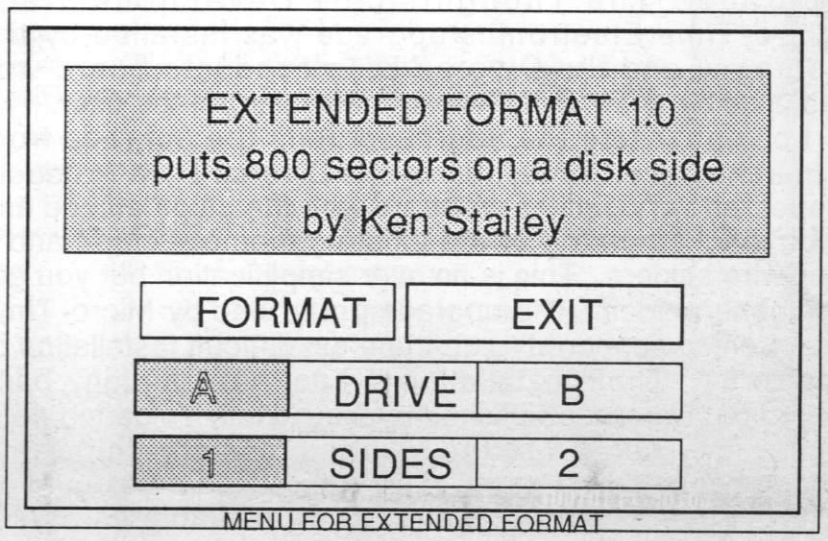
We have received reports of a public domain auto boot program being posted on B.B.S. for Atari ST hard disks. **DO NOT** attempt to use with your Supra drive....It will die and cost you $ $ $ $

WRITE 90°

REVIEWED by JOYCE FREEMAN

WRITE 90° ($29.95) - is a printer utility program by Xlent Software to print text and ASCII files saved to disk sideways. Write 90° will print your VIP spreadsheet files sideways on 8 1/2 X 11 inch paper either tractor-feed or on single sheets. This program provides you with a choice of five different size printer fonts (tiny, small, normal. large and gigantic) for your output. The printer drivers are limited to SMM804, Epson and compatibles, and Prowriter. There is a preview option that allows you to examine the various font selections on the screen without using any paper. Using the "gigantic" font you will be able to create extra large print-outs for displays.

A added bonus is a program on the disk titled "GEMXFMT.PRG" which will let you format a disk with 800 sectors on a side. Capacity on a double sided disk is increased from an available 726,016 bytes to 848,896 bytes of data storage.



MENU FOR EXTENDED FORMAT

XLENT SOFTWARE
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Springfield, VA 22150
(703) 644-8881

ATARI TO EXHIBIT AT CORPCON, EAST

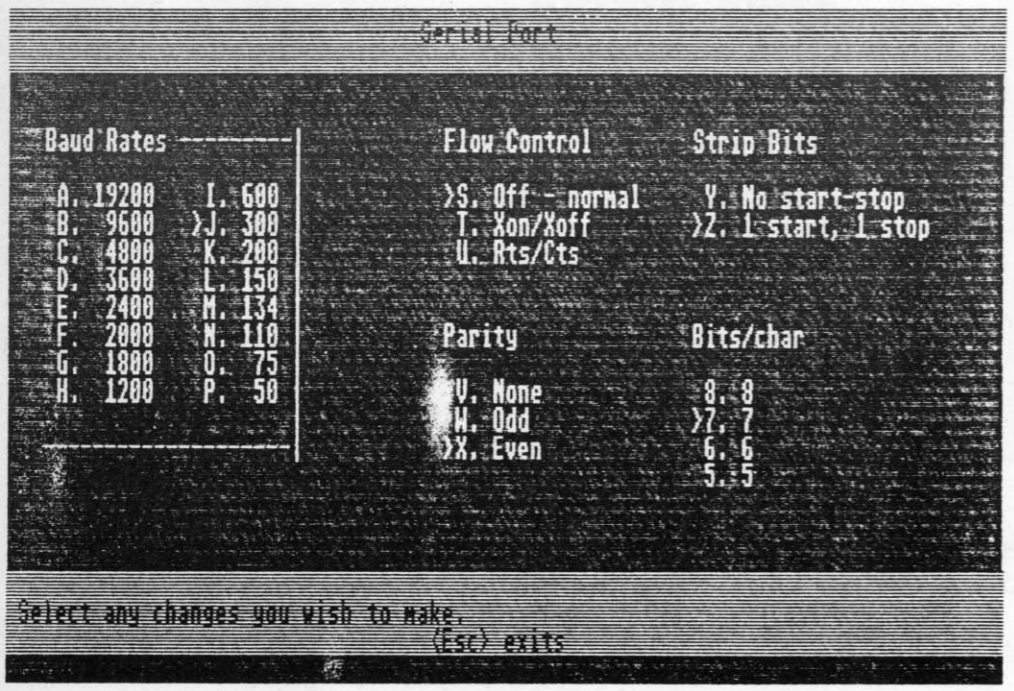
Sig Hartmann, Vice Pres. of Atari Corp in charge of OEM and Fortune 1000 sales has announced that Atari will for the first time bbe exhibiting at **CorpCon**, East. The microcomputer exposition and technical conference is attended primarily by Fortune 1000 corporate executives and buyers from major institutions.

The Atari ST will be exhibited along with three new major vertical market applications. Atari may also show a 520ST system which has a disk drive built into the unit similar to the 1040ST only with 512K. The unit would be bundled with Atari's VT100 cartridge emulator and geared toward the terminal buyer.

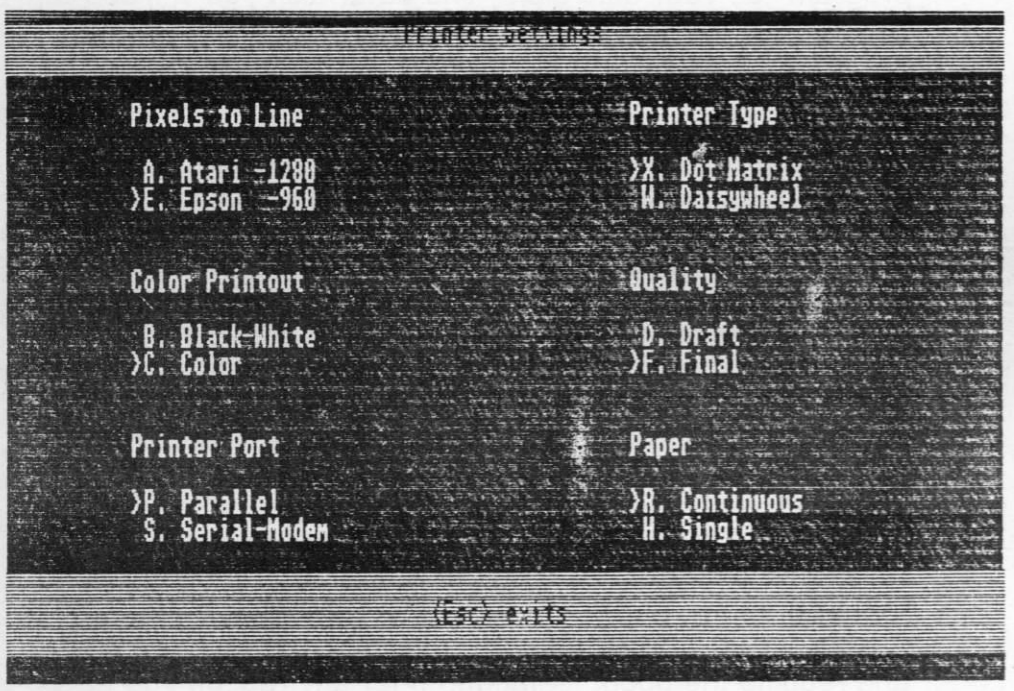
It is expected that 8,000 to 10,000 attendees will be attending the show this March 10th, 11th and 12th, to be held at the Sheraton Centre Hotel in New York. Addl info: (213) 450-0500

faST-Key SHELL

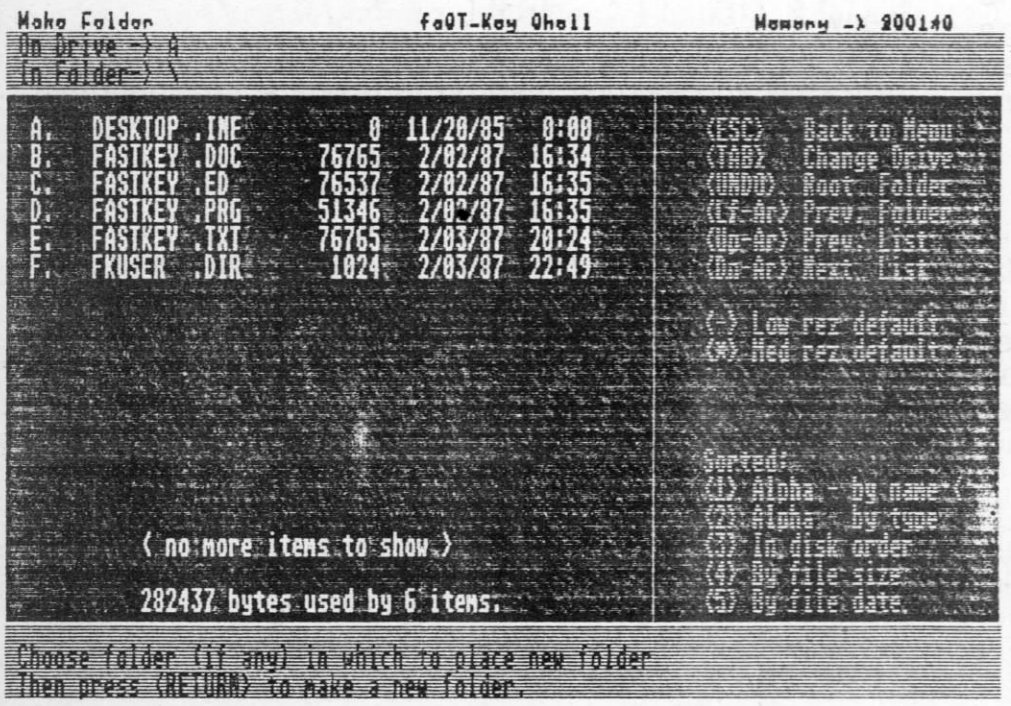
continued from page 6



VIEW OF SERIAL PORT SETTING SCREEN



VIEW OF PRINTER SETTING SCREEN


Make Folder
faST-Key Shell
Memory -) 200140
On Drive -) A
In Folder-) \
A. DESKTOP .INF 0 11/20/85 0:00
B. FASTKEY .DOC 76765 2/02/87 16:34
C. FASTKEY .ED 76537 2/02/87 16:35
D. FASTKEY .PRG 51346 2/02/87 16:35
E. FASTKEY .TXT 76765 2/03/87 20:24
F. FKUSER .DIR 1024 2/03/87 22:49
(ESC) Back to Menu
(TAB) Change Drive
(UNDO) Root Folder
(Lt-Ar) Prev. Folder
(Up-Ar) Prev. List
(Dn-Ar) Next List
(-) Low rez default
(+) Med rez default
Sorted:
(1) Alpha - by name
(2) Alpha - by type
(3) In disk order
(4) By file size
(5) By file date
(no more items to show)
282432 bytes used by 6 items.
Choose folder (if any) in which to place new folder
Then press (RETURN) to make a new folder.

VIEW OF MAKE NEW FOLDER SCREEN

The "E", "N" and "U" commands work together. These commands are very powerful and will be most appreciated by programmers. The "U" command allows you to store frequently used editor programs on the first of 8 screens, the latter seven being reserved for frequently used files. Once you have stored the editor names, files names and their locations on the user directory you will be able to load a editor and and a file with three simple key strokes. Depress "E", select alpha character corresponding to editor desired; select alpha character corresponding the file you wish to edit. *fastKey* will then load the editor and then load the file, you're ready to edit the file, simple, easy and fast. Selecting "N" simply allows you to load your selected editor.

"M", and "K" commands are fast easy methods to create new folders and delete empty folders from your disks. "T" command allows you to set system time and date.

The "S" command brings up a sub-menu to allow you to set serial and modem port settings, keyboard functions, printer settings, and screen colors. All the settings can be saved to your fastKey disk.

"F" command provides you a choice of formatting a disk either single sided or double sided (double sided requires SF314 drive). The formatting with *fastKey* is slower than from the desk top but provides checks not provided by the desk top formatting routine. When you format a disk from the desk top it is possible for a disk to format without all the clusters and sectors **especially** if you use single sided disks formatted double sided. If you have done this and used the disk without any initial problems and then later after adding more data ended up with a scrambled data disk it was because the disk was not formatted properly. Using *fastKey* to format disks you will never have that problem again. To double check on the integrity of your data disks you can use the **"I"** command (Disk information) on *fastKey*. A single sided disk should show 702 sectors, 351 clusters, 512 bytes per sector and 2 sectors per cluster (on a newly formatted disk you will have a disk capacity of 359,424 bytes, (2,048 bytes allocated and 357,376 bytes available for your use). A double sided disk should show 1,422 sectors, 711 clusters, 512 bytes per sector, 2 sectors per cluster (on a newly formatted disk you will have a disk capacity of 728,064 bytes, 2,048 bytes allocated and 726,016 bytes available for your use). If you want to check the integrity of data disks which you already have data on them just match the number of sectors, clusters, bytes per sector and sectors per cluster with the numbers above, if they **match** you have a good disk, **if they do not**, format a new disk and copy your files or you will end up with problems.

The "V" command is unique, you can view pictures files without loading a Neo or Degas program. Depressing "V" will display your directory and depressing the corresponding alpha key will load and display either a Neo or Degas picture either low or medium resolution with a color monitor. When using a monochrome monitor you can view only hi-res Degas pictures. "Q" command quits the fastKey program and returns you to the desktop.

fastKey is an excellent program and is a must for every ST user, this is one program that will save you hours of time and frustration. Order yours today from A.N.D. Corp or see your local Atari retailer. Suggested retail $49.95

A.N.D. Corporation
114 Cherry Street
Westwego, LA 70094
(504) 436-4538

TIMEWORKS SWIFTAX

Reviewed by CRAIG MICHAELSON

Plus . . .
FREE INSIDE
SYLVIA PORTER'S 1987 INCOME TAX GUIDE

Complete, easy-to-understand facts and guidelines for preparing your 1986 tax returns from America's most trusted financial advisor!

Includes:

- Invaluable tips that can save you hundreds of dollars at tax time.
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- 1987 Tax Planning Section.
- Answers to every kind of tax question.

Timeworks has released Sylvia Porter's **SWIFTAX**, a federal income tax preparation program for the 520ST and 1040ST systems. Swiftax provides schedules for:

Form 1040	U.S. individual tax return.
Form 1040A	U.S. individual tax return.
Form 1040A	Schedule 1.
Form 1040EZ	Income tax return for single filers with no dependents.
Schedule A	Itemized deductions.
Schedule B	Interest and dividend income.
Schedule C	Profit or loss from business or profession.
Schedule D	Capital gains and losses.
Schedule E	Supplemental income schedule.
Schedule F	Farm income and expenses.
Schedule G	Income averaging.
Schedule R	Credit for elderly and the permanently disabled.
Schedule SW	Computation of Social Security Self-employment tax.
Schedule W	Deduction for a married couple When both work.
Form 2106	Employee business expenses.
Form 2441	Credit for child and dependent care expenses.
Form 4562	Depreciation and amortization.
Form 6251	Alternative minimum tax computation.

All of the tax forms and schedules are built into the program, the only requirement is that you select the proper forms to complete for your own circumstances. Help screens are provided in all cases where you must make a choice. Complete guidelines are also provided in ***Sylvia Porters' 1987 Income Tax Guide*** which is included with the program.

Using the Swiftax program for preparation of your income tax return is a easy matter of answering the questions at each prompt. All of the necessary calculations are done automatically within the program so there is no margin for error providing you enter your numbers correctly. Throughout the program dialog boxes will appear instructing you or asking you whether or not you need to complete a certain form or schedule.

With you tax information in hand, setting up Swiftax to prepare your income taxes is very easy. The program disk is not copy protected and you are instructed to make **two back up copies of the program disk**. It is very important that you make two back up disks. One of the of the disks will be reformated in a special manner by a "set program" as your data disk. The other disk you will use to run the program. Swifttax will run on any drive including those on a hard disk.

The documentation that is provided by Timeworks is through and easy to follow, including how to use the GEM icons and mouse, formatting disks and installing your printer. This information should be known by any ST user, but the fact that Timeworks has included it provides you with a more comfortable feeling of how complete the documentation is.

The entire program is **GEM** based so you always have **HELP** screens available and pull down menus for every function. At the bottom of every screen is Timeworks' familiar function key boxes displaying what each function key available to you performs. As frustrating as preparing income tax forms can be, preparing them with Swiftax makes the task much easier. To review this program I re-did my own tax returns and what had originally taken me a couple of hours to complete took only an hour with Swiftax. Part of that time was used in preparing the disks and reading the documentation. If for any reason you have difficulty, Timeworks has included a technical hotline phone number to call. Based on my experience with the program I would say that they are getting **very few calls**, if any.

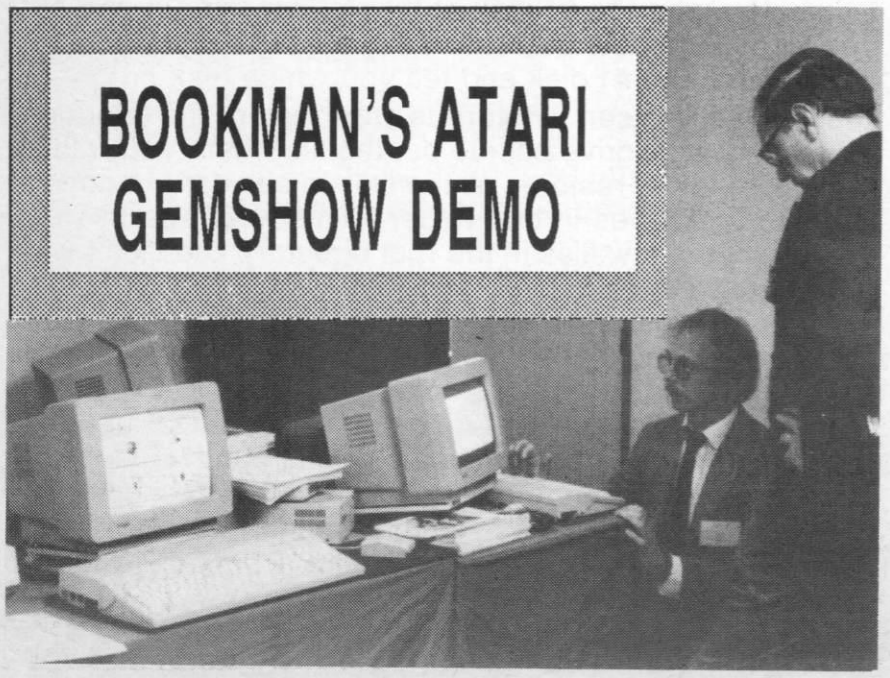
For any of you that have proscratinated, ***Swiftax is the quickest and easiest method to prepare your income tax returns.*** The printer will even print the correct figures in the proper place on the respective tax forms. You should however have a few extra copies of the forms to properly line your printer up with. The program also provides you with the option to print out your return on blank paper if you wish. As an added aid, Timeworks has also included a calculator accessory to help you add up any figures you may want to lump together.

There is little more that I can say about this excellent tax preparation program except that I wish it had been released sooner. I did my returns last month.

TIMEWORKS, INC.
444 Lake Cook Road
Deerfield, Il 60015
(312) 948-9200

GEMOLOGISTS DISCOVER NEW "GEM"

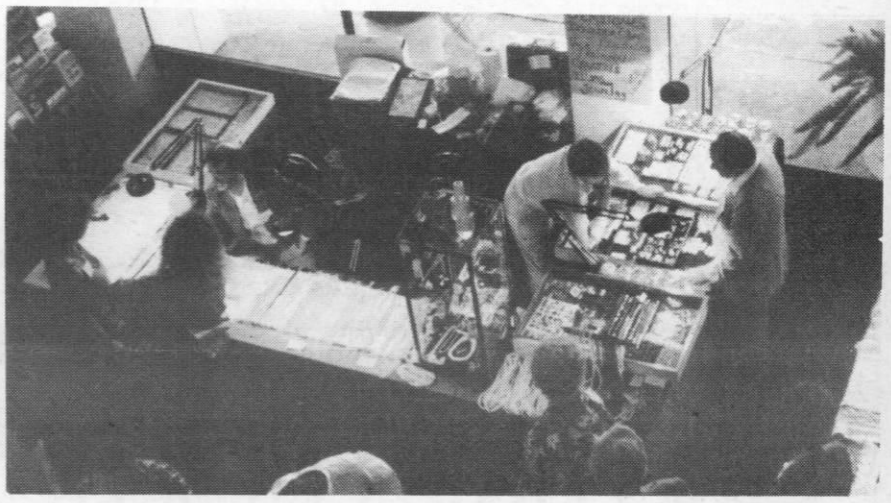
Diamonds, gold, pearls, emeralds, sapphires and the Atari ST proved to have more in common then just the word "GEM" at the ninth annual G.L.D.A. Tucson GEM Show hosted at the Holiday Inn Broadway in Tucson, Arizona. The show is the largest of its kind held in the United States displaying millions of dollars of precious gemstones. Attendance is restricted to only qualified wholesale buyers. Off-duty Tucson police officers, (armed and in uniform) insure that only qualified buyers gain admission to this annual extravaganza.



Bookman's, the largest Atari dealer in Tucson, hosted the Atari display centered among exhibitors displaying diamonds, sapphires and rare gem stones. The Atari ST running a demo of Tom Hudson's CAD 3D program with a picture of a solitaire diamond received high praise for its clarity, color reproduction, accuracy in display and ease of use. The Atari ST system proved to be one of the highlights of the show. Demonstrations of the versatility and power of the ST covering wordprocessing, database management, speadsheet applications and desk top publishing generated keen interest among attendees, especially after learning the price of the system.

Running concurrent with the G.L.D.A. GEM Show, the **Accredited Gemologists Association** hosted their annual conference at the Hotel Park Tucson. The association founded in 1974 is composed of many of the world's most foremost gemological authorities in 14 countries.

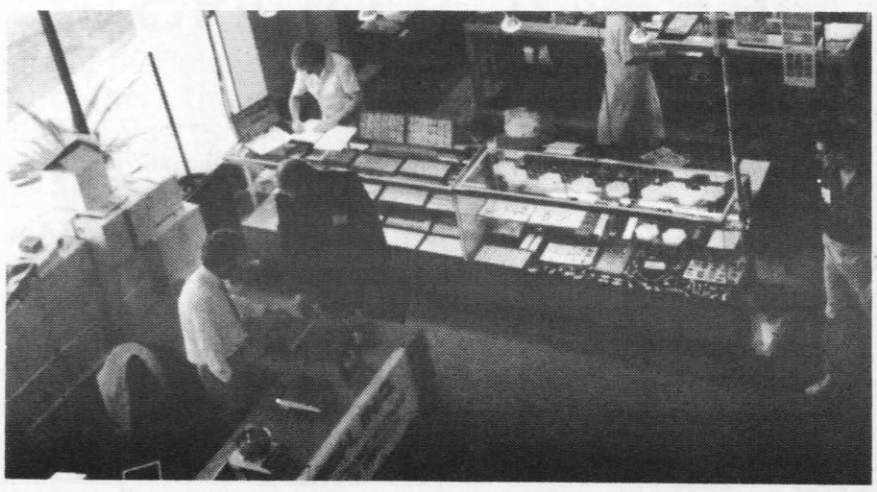
As part of the conference honored speakers included **Sig Hartmann, Vice President, Atari Corp** and **Martin Rapaport**, renowned diamond authority and author of ***Rapaport Diamond Report*** on Compuserve. Seminars on complete computer management including bookkeeping, accounting, appraisal, inventory, creating a database using dBMan, desk top publishing with SoftLogik's Publishing Partner, and A.N.D. Corp's new *fast-KEY* Shell on the Atari ST were hosted by Sig Hartmann, Atari Corp.; Bob Schlesinger, Jeff Johnston, Bookman's Atari Center; Pat Duffy, Mountain Micro Marketing, Inc. Rod Wagner, Gemsystems, Inc. demonstrated the his new "GEMSTATION" appraisal program (based on Tom Hudson's CAD-3D 2.0 program) on the Atari ST. Martin Rapaport demonstrated telecommunications on the Atari ST with a live on-line presentation accessing the current wholesale diamond market contained in the Rapaport Diamond Report on Compuserve.

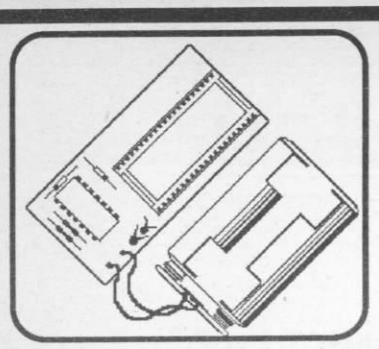


Robert L. Rosenblatt, President-Elect, AGA announced that the Atari ST will be used by the Accredited Gemologists Association for maintaining their membership rooster, mailing lists, communications and for publishing the "CORNERSTONE", the official AGA journal with SoftLogik's Publishing Partner program.

One of the board members pointed out that this years registration for the conference was being recorded on a Atari ST using dBMan and the staff handling the registrations were surprised how easy the ST was to use.

The AGA Board also adopted a standardization for the apprasial of gemstone grading using dBMan and Gemstation programs on the Atari ST. The Accredited Gemologists Association has introduced a new "GEM" to the gemological community - the **ATARI ST.**





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FEATURES NEXT ISSUE WILL INCLUDE

TOUCH SCREEN APPLICATIONS

POINT OF SALE

INTERFACING WITH ANY GEM PROGRAM WRITTEN IN C

HARD DISK BACK UP UTILITY

CONTINUED FROM PAGE 3

To restore the data back to your hard disk the *Restore* menu offers several choices: Show volume, scan volume, restore file, restore folder and restore tree (folder & subs). Show volume will instruct you to insert disk #1 of the volume (group of disks) you wish to check. Oscar will display the volume name, the root path for that volume and the last time the volume was backed up.

Scan volume also will ask for disk #1 of the volume you wish to check. Scan will show all the files that are contained in that volume, the return key will page the file forward allowing you to view the entire volume.

Restore file command is used to restore a single file and can be restored anyplace on the hard disk. You will be asked to insert the #1 disk of the volume (group of disks) the file is located on. Oscar will ask for the file name and then check the #1 disk and tell you which disk number in the volume to insert. Return to start restore file to original drive or change drive path to put the file where you want it.

Restore folder restores all the files in a folder but none of the subdirectories in that folder. This would be useful if you trashed a few files in the root directory and didn't want to restore all the sub directories that were there also.

Restore Tree restores all files and sub directories in a folder. You would use this option for a whole disk restore and whole folder restores. You also have the option to restore to a different location by entering the path change including the drive designation. This is handy if you want to restore a back up from one DOS partition to another.

The Verify menu allows you to select the verify ON/OFF. The Drive menu allows you to select A or B drive for the default back up drive.

The Filters menu houses the *greatest feature of Oscar*, ***DATE:Backup.*** Date backup allows you to enter a date for backing up only files that are only dated after the date that you enter. This feature will save you a considerable amount of time in the future.

The Utility menu contains three functions: Tree list, Find file and Format. *Tree list* prints the directory of folders, sub-directory, or whole disk to either the printer or screen. A dialog box is provided to enter a whole disk directory or the path you wish a directory of. *Find file* is a search feature to locate a file or multiple occurrences of a file name on the hard disk or within a DOS partition. The results of the search can be sent to the screen or printer. The *Format* routine is the same as formatting from the standard desk top routine with one major difference, *Oscar's format routine will report any bad blocks*, any disks with bad blocks reported should not be used for back ups.

SOFTLAB
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ST. GEORGE, UT 84770
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ATTENTION USER GROUPS

If you are planning a ATARIFEST, send in the dates and location for inclusion in our ATARIFEST schedule. Newsletter editors contact Richard Parker for free exchange subscription program.

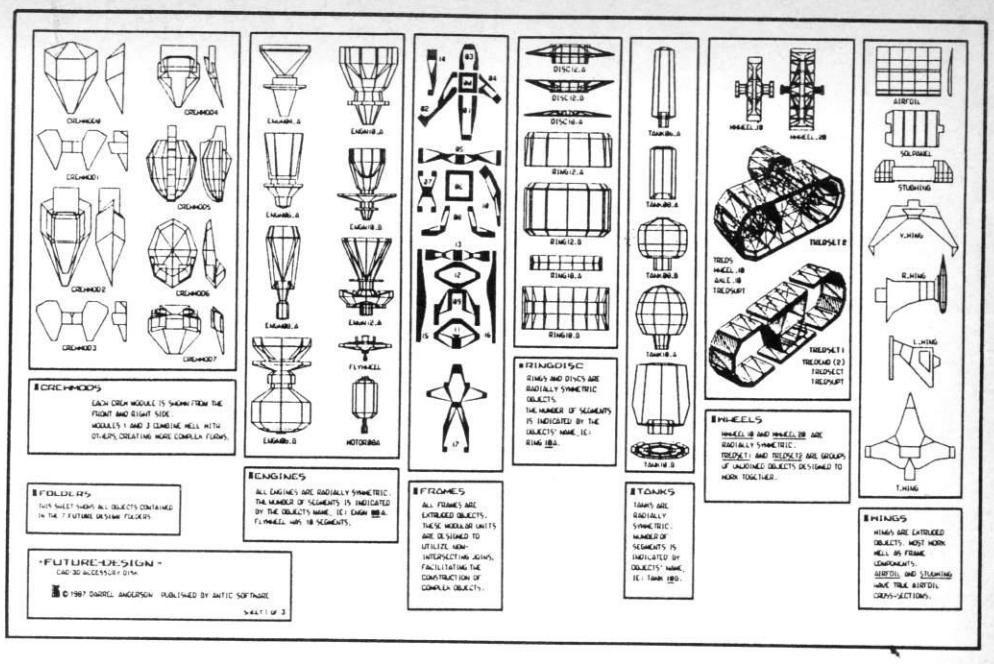
User Group Presidents contact ST WORLD for free qualified subscription form to ST WORLD.

TOM HUDSON'S CAD 3-D UPGRADE

(CAD 3-D 2.0)

Tom Hudson's upgrade to CAD-3D 1.0, Stereo CAD-3D 2.0 ($89.95) will be shipping the end of March. CAD-3D 1.0 owners may obtain the 2.0 version for $40.00 plus $5.00 shipping and return of their original 1.0 disk to Antic.

2.0 is compatible with StereoTech 3D glasses and requires a 1 megabyte ST system. 2.0 is substancially faster than 1.0 and provides for true stereo control with perspective adjuster. Tom has provided dimensioning for real-world object scaling and three independent light source icons (2.0 was recently adopted by the Accredited Gemologists Association for recording and modeling precious gemstones). Additional features include Z-buffering for 100% perfect hidden line removal, GDOS print drivers, load/save 2D object templates, super extruder tool for building objects with holes in them (like fonts) and or multicolored faces, custom palette/shading sector and a tutorial with 3D objects on disk.

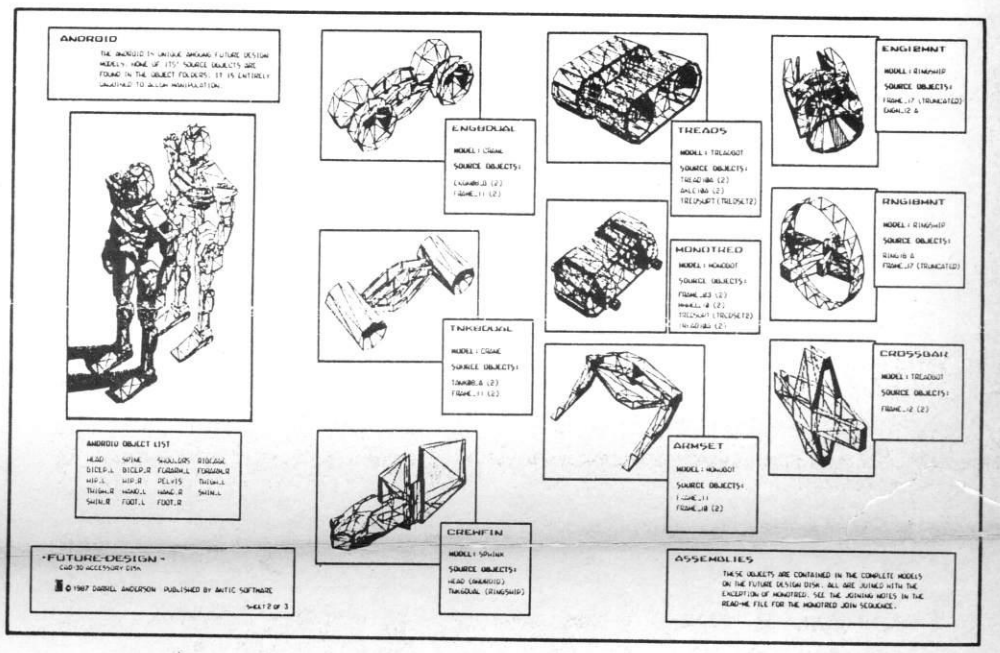


ALL OBJECTS CONTAIN IN THE 7 FUTURE DESIGN FOLDERS

FUTURE DESIGN DISK

Darrel Anderson has written FUTURE DESIGN DISK ($24.95), published by Antic, which provides you with a modular construction set of demensional clip art to create your own science fiction universe of space stations, space ships and androids, Future Design may be used with Cad 3-D 1.0 or 2.0

Examples of the different clip art objects and how they may be used:



EXAMPLES OF FUTURE DESIGN CREATED MODELS

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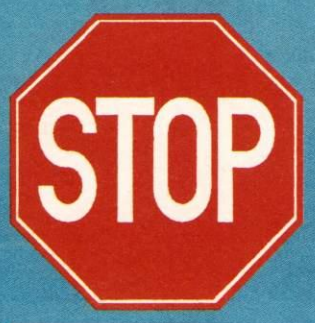

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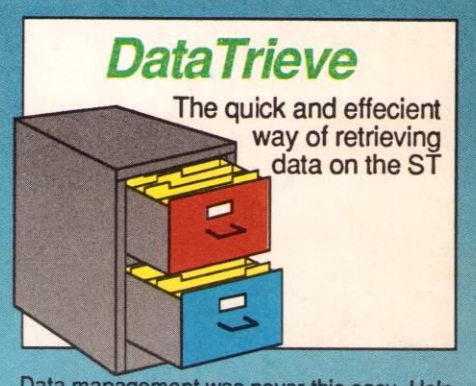

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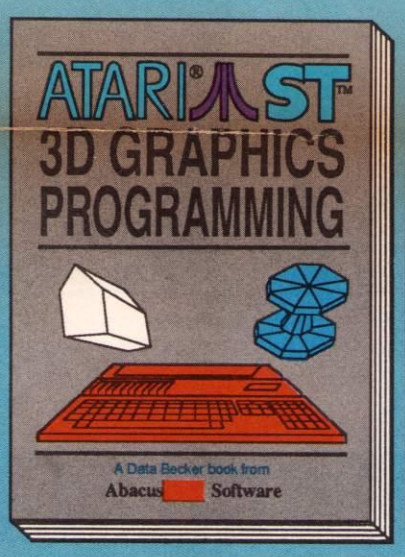

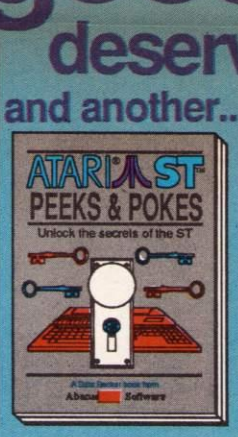

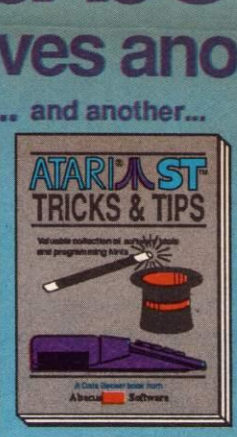

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